



## OVERVIEW OF KNOWLEDGE ABOUT MAINTAINING DENTAL HEALTH AND FIXED DENTAL CARIES IN GRADE V STUDENTS AT SDN 10 PEDUNGAN IN 2025

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### ABSTRACT

Dental and oral health are often underpaid by some people, even though they play an important role as the main route for germs and bacteria to enter. The awareness of children aged 10-12 years on the importance of maintaining dental and oral health is still relatively low. This can be seen from the habits of those who tend to be lazy to brush their teeth and often consume sweet foods every day. The purpose of this study is to find out an overview of knowledge about maintaining dental health and fixed dental caries in grade V students at SDN 10 Pedungan in 2025. This type of research is descriptive using primary data in the form of knowledge test results and direct dental examination results of students as well as secondary data in the form of student attendance. The results of the study on 31 students showed that the level of knowledge with the most criteria was found in the category of sufficient knowledge level, which was 22 students 71,0%. The number of students affected by caries was 11 students (35,5%). The average level of knowledge about maintaining dental health for students is 65 with a good category. The average student fixed dental caries was 0.52. The average fixed dental caries is based on the level of knowledge about maintaining dental and oral health with the good category 0,25, the moderate category 0,36, and the poor category 1,4.

**Keywords:** knowledge; fixed dental caries; student.



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## **INTRODUCTION**

Knowledge is the result of the process of perceiving a particular object or phenomenon. In the context of dental and oral health, understanding and proper habits are very important for maintaining cleanliness. Knowledge plays a role as the basis for shaping a person's behavior. If a person has insufficient knowledge, this can lead to inappropriate behavior in caring for dental and oral health. Knowledge about dental and oral health has a major influence on an individual's behavior in maintaining cleanliness and health. As knowledge increases, a person's ability to understand and respond to information also increases. This has an impact on an individual's ability to develop more positive attitudes and behaviors. Conversely, limited knowledge can cause dental and oral health problems (Meidina, Hidayati, & Mahirawatie, 2023).

According to Lucie (in Gejir et al., 2020), extension is understood as a process that encourages sustainable behavioral change. The expected changes are not limited to increasing knowledge, but also include developing more positive skills and attitudes, thereby encouraging individuals to act better, be more productive, and produce beneficial results.

Primary school-aged children, who are between the ages of 6 and 12, are in a phase of development called the school age (Yuniar, Nikmatur & Zuhrotul, 2024). At this stage, children experience rapid physical growth and begin to form various habits, including habits of maintaining dental and oral health, which will generally carry over into adulthood. However, children's behavior in maintaining oral hygiene in Indonesia is still relatively low. Many people consider dental care to be unimportant, even though it actually plays a major role in maintaining overall health and supporting appearance (Yuniarly, Amalia, & Haryani, 2019).

Oral health plays an important role in supporting optimal health and improving a person's quality of life. Lack of knowledge about how to maintain oral health can lead to poor oral health. Dental and oral problems are commonly found in children aged 10–12 years, which are generally caused by improper brushing habits from an early age. According to data, 96.5% of children aged 10–12 do brush their teeth daily, but only 2.1% of them do so correctly, namely after breakfast and before bedtime. even though brushing teeth in the right way and at the right time is a simple but

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effective step in preventing cavities. In addition, choosing the right toothbrush, such as one with a small head and flat tip, makes it easier for children to clean all surfaces of their teeth and oral cavity (Silitonga and Boyoh, 2024).

Tooth decay or cavities are one of the health problems that people often complain about. This condition occurs when the surface of the tooth is damaged, which then develops to reach the pulp tissue and causes pain (Rahmandhini, Sulastris and Hidayati, 2017). In children, cavities are generally caused by the habit of consuming sweet and sticky foods, as well as their lack of familiarity with proper tooth brushing techniques. A diet that tends to include cariogenic foods, coupled with a lack of awareness and discipline in maintaining dental and oral hygiene, results in children having poor oral hygiene and an increased risk of tooth decay (Welliam, 2023).

Based on interviews with several teachers at SDN 10 Pedungan, it was found that no evaluation of students' dental and oral health had been conducted after the educational activities. This prompted the author to conduct research on fifth-grade students. At the age of 11, children begin to increase their consumption of sugary foods, thereby increasing the risk of dental health problems. At this age, almost all permanent teeth have grown, except for the third molars, so that an assessment of dental and oral hygiene can be carried out more accurately. In addition, children at this age are generally able to cooperate and understand the importance of maintaining good dental and oral health. Therefore, the age of 11–12 years has also been set as the global monitoring age for caries. Based on these considerations, the author decided to conduct research at SDN 10 Pedungan regarding the level of knowledge of fifth-grade students about dental health maintenance and the condition of permanent tooth decay in 2025.

## **METHOD**

This study is a descriptive study with a cross-sectional design, conducted to determine the description of students' knowledge about dental health care and the condition of permanent tooth decay in fifth-grade students at SDN 10 Pedungan, South Denpasar, in April 2025. This study

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did not use a sample but rather the total population, which consisted of all 31 fifth-grade students at SDN 10 Pedungan, South Denpasar.

This study used two types of data, namely primary data and secondary data. Primary data was obtained through tests to determine the level of knowledge about dental health maintenance, as well as through dental examinations to determine the condition of dental caries, while secondary data was obtained from the attendance data of fifth-grade students at SDN 10 Pedungan, South Denpasar.

## RESULTS

### 1. Characteristics of the research subjects

- a. The characteristics of fifth-grade students at SDN 10 Pedungan in 2025, based on gender, are as follows:

**Table 1. Characteristics of Grade V Students at SDN 10 Pedungan in 2025 Based on Gender.**

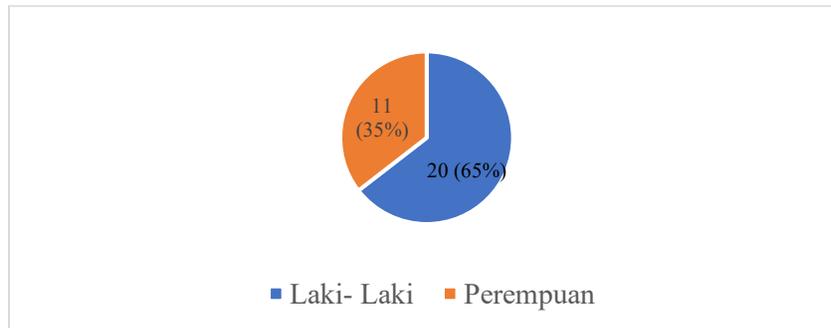


Figure 1 shows that in 2025, there will be more male students in grade V at SDN 10 Pedungan, totaling 20 students (65%), compared to female students, totaling 11 students (35%).

- b. The characteristics of fifth-grade students at SDN 10 Pedungan in 2025, based on age, are shown in the figure below, as follows:

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**Table 2. Characteristics of Grade V Students at SDN 10 Pedungan in 2025 Based on Age.**

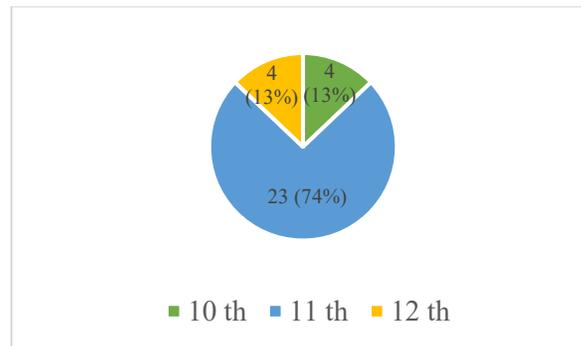


Figure 2 shows that respondents aged 11 years old were the most numerous, numbering 23 people (74%), while those aged 10 and 12 years old were the least numerous, numbering 4 people each (13%).

## 2. Results of observations on research subjects

The results of a study conducted on 31 fifth-grade students at SDN 10 Pedungan in 2025 regarding their level of knowledge about dental health and dental caries are presented as follows:

- The frequency of knowledge levels of fifth-grade students at SDN 10 Pedungan in 2025 regarding dental and oral health maintenance, categorized as good, adequate, and poor, can be seen in the table below

**Table 1. Frequency Distribution of Dental Health Care Knowledge Levels Among Fifth Grade Students at SDN 10 Pedungan in 2025**

No	Kriteria Pengetahuan	f	(%)
1	Baik 76-100%	4	12,90
2	Cukup 56-75 %	22	71,0
3	Kurang <56%	5	16,1
Jumlah		31	100

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Table 1 shows that the highest level of student knowledge was in the sufficient category, with 22 students (71.0%), and the lowest was in the good category, with 4 students (12.90%).

a. Average level of knowledge about dental and oral health care among fifth-grade students at SDN 10 Pedungan in 2025. The average level of knowledge about dental and oral health care among fifth-grade students at SDN 10 Pedungan in 2025 is the total number of student knowledge scores divided by the number of respondents ( $2015/31$ ) = 65, which is categorized as good.

b. The frequency of fifth-grade students experiencing permanent tooth decay at SDN 10 Pedungan can be seen in the table below, as follows:

**Table 2. Frequency Distribution of Fifth Grade Students at SDN 10 Pedungan Experiencing Permanent Tooth Decay in 2025**

No	Kategori Gigi Siswa	Frekuensi	(%)
1	Sehat	20	64,5
2	Karies	11	35,5
	Jumlah	31	100

Table 2 shows that of the 31 fifth-grade students at SDN 10 Pedungan who were examined, 11 students (35.5%) had permanent tooth decay, which was fewer than the 20 students (64.5%) who had healthy teeth.

a. Average dental caries in fifth-grade students at SDN 10 Pedungan.

The average dental caries in fifth-grade students at SDN 10 Pedungan in 2025 shows that the average dental caries in students is the number of dental caries divided by the number of respondents ( $16/31$ ) = 0.52.



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b. The average dental caries in permanent teeth of fifth-grade students at SDN 10 Pedungan based on their level of knowledge about dental and oral health care, categorized as good, adequate, or poor, can be seen in the table below, as follows:

**Table 3. Distribution of Average Permanent Dental Caries in Fifth Grade Students at SDN 10 Pedungan Based on Level of Knowledge About Dental Health Care in 2025**

No	Kategori Tingkat Pengetahuan	Jumlah Karies (Gigi)	Jumlah (Siswa)	Rata-rata Karies
1	Baik	1	4	0,25
2	Cukup	8	22	0,36
3	Kurang	7	5	1,4
	Jumlah	16	31	0,52

Table 3 shows that the highest average number of permanent tooth decay in fifth-grade students was in the group of students with poor knowledge, with an average of 1.4 cavities. The lowest average number of cavities was in the group of students with good knowledge, with an average of 0.25 cavities.

## DISCUSSION

The results of research and data analysis of 31 fifth-grade students at SDN 10 Pedungan in 2025 show that the frequency of knowledge about dental and oral health care was highest in the adequate category, with 22 students (71.0%), and lowest in the good category, with 4 students (16.1%).

These results differ from those of a study conducted by Artami (2022) on fifth-grade students at SDN 5 Kerta, Payangan District, Gianyar Regency, which found that most students had a good level of knowledge (43.33%). Artami also stated that the average knowledge of students was in the moderate category with an average score of 71.67. These results may be due to students

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having different levels of intelligence or social environments. Another possibility is that students lack interest and motivation to learn about how to maintain dental and oral hygiene, which affects their level of knowledge. The results of this study are also supported by the statements of Meidina, Hidayati, and Mahirawatie 2023, that if a person has inadequate knowledge, this can lead to inappropriate behavior in caring for dental and oral health

The average level of knowledge about dental and oral health care among fifth-grade students at SDN 10 Pedungan in 2025 is 65, which is classified as adequate. This may be because fifth-grade students at SDN 10 Pedungan have received education about dental and oral health from health workers, but they have not been able to fully comprehend the material presented.

The results of this study are supported by Mubarak's statement (in Pariati and Jumriani, 2020), which states that one of the factors influencing knowledge is interest, which is a person's attraction to something. When someone is interested in something, they tend to be more focused and explore it more deeply, which ultimately increases their knowledge. This is also supported by Lucie's statement (in Gejir et al., 2020), which defines counseling as a process that encourages continuous behavioral change. The expected changes are not only limited to increasing knowledge but also include developing more positive skills and attitudes, thereby encouraging individuals to act better, be more productive, and produce beneficial results.

The results of the permanent tooth decay examination of fifth-grade students at SDN 10 Pedungan in 2025 showed that 11 students (35.5%) had permanent tooth decay and 20 students (64.5%) had healthy teeth.

The average permanent tooth decay in fifth grade students at SDN 10 Pedungan in 2025 is 0.52. The results of this study are in line with Ali's (2020) study, which was conducted on fourth and fifth grade students at SDN 6 Sasetan, South Denpasar District, in 2020, stating that 0.73 students experienced permanent tooth decay. This result may be due to the fact that students have begun to understand the importance of maintaining dental and oral health. The average permanent tooth decay in fifth-grade students at SDN 10 Pedungan is lower than the WHO target for 2020 of  $\leq 1$ .

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The results of a study on the average permanent tooth decay based on the level of knowledge about dental and oral health maintenance among fifth-grade students at SDN 10 Pedungan in 2025 found that students with a good level of knowledge about dental health maintenance had an average permanent tooth decay of 0.25. students with adequate knowledge of dental health maintenance had an average of 0.36 permanent teeth with caries, and students with poor knowledge of dental and oral health maintenance had an average of 1.4 permanent teeth with caries. Based on this study, it was found that students with poor knowledge had the highest average caries rate of 1.4, indicating that a lack of knowledge has a significant effect on increasing the risk of dental caries.

This may be because students in this category do not yet understand the importance of maintaining dental and oral health, so that caries prevention behaviors are not carried out effectively. This also shows that students still lack knowledge about maintaining dental and oral health, which can increase the risk of permanent tooth decay, according to Meidina, Hidayati, and Mahirawatie (2023), if someone has insufficient knowledge, this can lead to inappropriate behavior in caring for dental and oral health. Knowledge about dental and oral health has a significant influence on an individual's behavior in maintaining their cleanliness and health. As knowledge increases, a person's ability to understand and respond to information also increases. This has an impact on an individual's ability to develop more positive attitudes and behaviors. Conversely, limited knowledge can cause dental and oral health problems.

## **CONCLUSIONS**

Based on the results of research on fifth-grade students at SDN 10 Pedungan in 2025, it can be concluded that most of them have a sufficient level of knowledge about dental and oral health care, namely 22 students (71.0%). The average level of knowledge among students about dental and oral health care was good, with 65 students. A small number of students had permanent tooth decay, namely 11 students (35%), while 20 students (65%) were free of tooth decay, with an

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average of 0.52 permanent tooth decay among students, which has reached the WHO target for 2020 of  $\leq 1$ .

The average permanent tooth decay in fifth-grade students at SDN 10 Pedungan in 2025 based on the highest level of knowledge was in the group of students with a low level of knowledge, with an average decay of 1.4. The lowest average tooth decay was found in the group of students with a very good level of knowledge, with an average decay of 0.25.

### **CONFLICT OF INTEREST**

We declare that there is no conflict of interest in this research

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