



## Distribution of dental caries in primary schoolchildren in Al-Samawah City

Ahmed Jameel Obayes , Hiba Ahmed Saeed 

College of Dentistry, Al-Muthanna University, Al-Muthanna, Iraq

✉ Ahmed.jameel@mu.edu.iq

### Abstract

**INTRODUCTION.** Dental caries is teeth decay due to bacteria. One of the most preventable of oral health problems and the most prevalent ongoing health issue in primary school children, it is also the most anticipated chronic disorder in children around the globe. Bad oral health influences the quality of life of children.

**AIM.** The aim of this study was to establish the prevalence rate of dental caries and the potential demographical variables among the major pupils in the primary school in the Al-Samawah City.

**MATERIALS AND METHODS.** This survey study conducted between February and June 2025 and, carried out in Al-Muthanna province in four schools (2 public + 2 private) randomly drawn from a list of all primary schools in the governorate. This study used a total sample of 100, 5 schools was also used in random selection of 25 children in each school who were taken to the dentists by the research personnel, to determine the prevalence on Dental caries and other relevant information on the demographical characteristic and sociodemographic status was obtained through a structured questionnaire that was set aside to carrying it out. The data analyses were conducted using the Statistical Package for Social Sciences (SPSS) version-23.

**RESULTS.** Overall, the results of this study revealed the highest no. of dental caries was in children of private school (48), while the non-dental caries children prevalence highest in public school with no (10). However, numbering of decay teeth according to type of school illustrated of the following [the no. of children that not have dental caries in public school were highest (10), while the no. of children that have (1-4) teeth decay were highest in public school also with no (29). In contrast to that, the private school children illustrated highest no. of dental caries in (4-10) and in more than 10 teeth with numbering (16 and 5, respectively). In term of cleaning status of children, the college or institutional education level of father showed highest percentage in public and private school (39.13% and 63.64%, respectively). On the other hand, the highest percentage of tooth brush children in public school was in intermediate economic level family (67.39%), while the highest percentage of tooth brushing children in private school were in good economic level family (65.91%). Overall, study findings indicated that it was found that a higher no. of dental caries was related to that of a children, mothers and fathers with secondary as well as, college or institutional education level.

**CONCLUSIONS.** The study is useful in giving me ideas on the distribution patterns and causes of caries as well as influences of the sociodemographics on dental caries in adolescent schoolchildren. According to this research, in general, a wide range of prevalence of dental caries among primary schoolchildren was present in the Al-Muthanna province. But the difference in the prevalence rates is seen in respect of sampling technique, sample size related to the factors associated with this province like economic conditions of the family, education level of mother and father and youngsters brushing their teeth. Nevertheless, the findings depicted that the highest no. of dental caries was observed in kids of a private school. In addition, more decay teeth were linked with a child whose parents had secondary and as well as college or institutional education level.

**Keywords:** dental decay, schoolchildren, Al-Muthanna province, prevalence, public school

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## Особенности распределения кариеса зубов среди детей младшего школьного возраста в г. Эс-Самава

А.Д. Обайес , Х.А. Саид 

Колледж стоматологии Университета Аль-Мутанна, провинция Аль-Мутанна, Ирак

✉ Ahmed.jameel@mu.edu.iq

### Резюме

**ВВЕДЕНИЕ.** Кариес зубов представляет собой разрушение твердых тканей зуба, обусловленное деятельностью бактерий. Он является одной из наиболее предотвратимых стоматологических проблем и одновременно наиболее распространенным хроническим заболеванием среди детей младшего

школьного возраста. Во всем мире кариес рассматривается как одно из наиболее ожидаемых хронических расстройств детского возраста. Плохое состояние полости рта существенно влияет на качество жизни детей.

**ЦЕЛЬ.** Целью данного исследования было определить уровень распространенности кариеса зубов и возможные демографические факторы среди учащихся начальных школ города Эс-Самава.

**МАТЕРИАЛЫ И МЕТОДЫ.** Настоящее обследовательское исследование проводилось в период с февраля по июнь 2025 г. в провинции Аль-Мутанна. В исследование были включены четыре школы (2 государственных и 2 частных), случайным образом отобранные из общего списка начальных школ губернаторства. Общий объем выборки составил 100 детей. В каждой школе методом случайного отбора было включено по 25 учащихся, которые были осмотрены стоматологами исследовательской группы для определения распространенности кариеса. Дополнительная информация о демографических и социально-экономических характеристиках собиралась с использованием структурированной анкеты. Статистическая обработка данных проводилась с использованием пакета программ Statistical Package for Social Sciences (SPSS), версия 23.

**РЕЗУЛЬТАТЫ.** В целом результаты исследования показали, что наибольшее число случаев кариеса выявлено у детей частных школ (48), тогда как наибольшая распространенность отсутствия кариеса наблюдалась среди учащихся государственных школ (10). Анализ количества пораженных зубов в зависимости от типа школы показал, что наибольшее число детей без кариеса было в государственных школах (10), а также максимальное количество детей с поражением 114 зубов также отмечено в государственных школах (29). В то же время среди учащихся частных школ наибольшее число случаев кариеса приходилось на группы с поражением 4-10 зубов и более 10 зубов (16 и 5 соответственно). С точки зрения гигиенического статуса, наибольший процент отцов с высшим или институциональным уровнем образования был выявлен как в государственных, так и в частных школах (39,13 и 63,64 % соответственно). Кроме того, наибольший процент детей, регулярно использующих зубную щетку, в государственных школах наблюдался в семьях со средним уровнем дохода (67,39 %), тогда как в частных школах – в семьях с высоким экономическим уровнем (65,91 %). В целом результаты исследования показали, что большее число кариозных поражений ассоциировано с детьми, а также с уровнем образования матерей и отцов, имеющих среднее и высшее (колледжное или институциональное) образование.

**ВЫВОДЫ.** Проведенное исследование позволяет получить представление о закономерностях распределения кариеса и факторах, влияющих на его развитие, а также о роли социально-демографических показателей в формировании стоматологического статуса школьников. В провинции Аль-Мутанна выявлен широкий диапазон распространенности кариеса среди учащихся начальных школ. Различия в показателях распространенности связаны с методикой отбора, объемом выборки и факторами, характерными для данной провинции, такими как экономическое положение семьи, уровень образования родителей и гигиенические навыки детей. При этом установлено, что наибольшее число кариозных поражений наблюдалось у детей частных школ. Кроме того, большее количество пораженных зубов отмечалось у детей, родители которых имели среднее и высшее (колледжное или институциональное) образование.

**Ключевые слова:** кариес зубов, школьники, провинция Аль-Мутанна, распространенность, государственная школа

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## INTRODUCTION

Dental caries or tooth decay Worldwide, it is one of the most common chronic diseases encountered by people, that is, there is no age limit to encounter the disease. The condition occurs as a result of long and complicated interaction that involves acid producing bacteria and the presence of fermentable carbohydrates in a combination of several host factors such as teeth and saliva [1; 2]. Very alarming especially in children because dental caries weakens even the treated tooth structures yet it promotes the growth and development of the afflicted child. Pain during chewing may cause child to have poor nutritional status hence missing school. Dental caries is also on the rise in the developing countries due to many factors including consumption of cariogenic foodstuffs, poor oral care, socio economic, health, age, accessibility to health provision and other lifestyle issues [3].

Severe untreated caries can potentially impair children's growth due to poor oral intake and weight loss. Additionally, affected children have been found to gain weight rapidly after receiving proper dental care [4]. Additionally, aesthetic appearance is a significant factor that affects the self-esteem and social interactions of children [5]. Dental interventions and preventive remedies can be employed to mitigate the adverse effects of dental caries on children and enhance their overall quality of life [6]. The (D) Index indicated that the overall prevalence of dental caries was 76.4%. In a study conducted in Saudi Arabia in 2025, the prevalence of dental caries was 86.4%, 82.4%, 70%, and 50% for the ages of 8, 7, 6, and 12 years, respectively [4].

Mahmood et al. conducted an additional study that demonstrated that a serum Vitamin D level of 15 ng/mL or higher and a normal body mass index (BMI) are associated with a lower caries index in children [7].

At the age of 12, dental caries was prevalent at 32.6%. At the age of 12, females exhibited a greater incidence of caries than males at both ages. In Himachal Pradesh, India, children attending government schools exhibited a higher incidence of dental caries than those attending private schools [8].

According to the research developed by Al-Akwa and Al-Maweri, 2018, about 67.6 percent of children were affected by dental caries in Yemen and children living in urban districts recorded higher average scores than the ones living in rural districts [9].

Kareem and his colleagues demonstrated in their research that the prevalence rate of dental caries in Karbala city was 95.60% [10].

## AIM AND METHODS

This survey study carried out in Al-Muthanna province from February to June 2025; in following four schools randomly drawn from a list of all primary schools in the governorate included (Ahrar Al-Iraq Elementary School for Boys and Amina bint Wahb for girls) these are attended public school. While, the other two schools included (Uruk Girls School and Al-Kindi Boys School) are private. The 100-sample included in this study were randomly selected and examined by dentists as well as, all demographical characteristic such as "the child's age and gender, level of education for mother and father of children, the economic status of the family, cleaning children's teeth and number of decayed teeth" and other information are recorded by questioner designated for this purpose. However, from each school 25 children selected. The age ranged is 12 years for all selected children and sex of children included are (50 male + 50 female).

## Statistical analysis

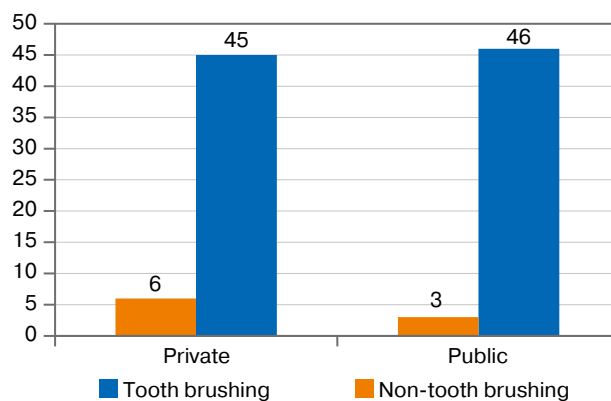
The data that was collected was analysed using the Statistical Package for Social Sciences (SPSS) version 23 (SPSS, An IBM Company). The descriptive analysis was conducted by computing frequency distributions and percentages for the research variables, including the level of education, the economic status of the family, the number of decayed teeth, and the dental cleaning of children.

## RESULTS

The purpose of this study was to determine the prevalence and risk factors for caries among children in Samawa City. A total of 100 suitable schoolchildren (25 from each school), aged 12 years, were involved. Females accounted for 50 children, while 50 children were male.

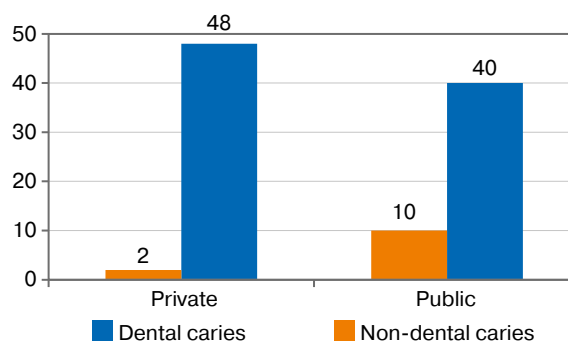
### Distribution of cleaning children's teeth according to type of school

The distribution of cleaning status of children teeth are recorded in (Fig. 1) were the tooth brushing level in public school children higher than in private school (46 vs. 45). On the other hand, the level of non-tooth brushing children in private school were higher than in public (6 vs. 3).



**Fig. 1.** Distribution of tooth brushing for children according to type of school

**Рис. 1.** Распределение частоты чистки зубов у детей в зависимости от типа школы



**Fig. 2.** Distribution of participants according to presence of dental caries or non

**Рис. 2.** Распределение участников в зависимости от наличия или отсутствия кариеса зубов

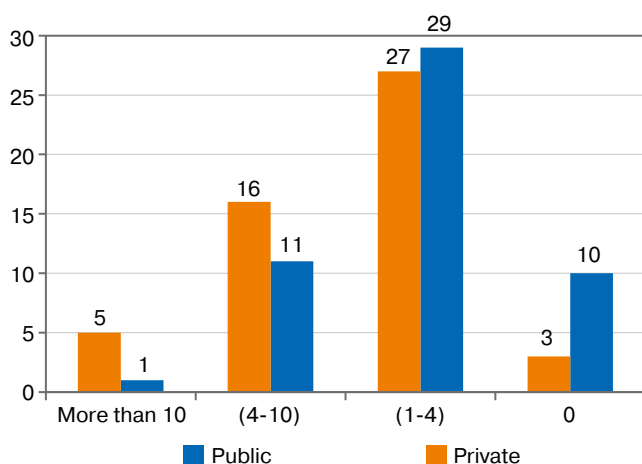
### Distribution of participants according to presence of dental caries or non

Figure 2 depicts the distribution of dental caries in primary children based on school type, with (48 vs. 40) representing the distribution levels of dental caries for children in private and public schools, respectively. The frequency of non-dental caries among children was as follows (10 vs. 2 in public and private schools, respectively).

### Prevalence of decay teeth according to type of school

The prevalence of decay teeth of children in public school children as following [10 children not have dental caries, 29 children have dental caries in number (1-4) of teeth, 11 children have dental caries in numbering of (4-10) of teeth, as well as the number of children these have dental caries in more than 10 of teeth were 1].

Conversely, the prevalence of dental caries among private school students was as follows: 3 children had no dental decay, 27 children had decay affecting 4 to 10 teeth, 16 children had decay in 4 to 10 teeth, and 5 children had decay in more than 10 teeth, as seen in Fig. 3.



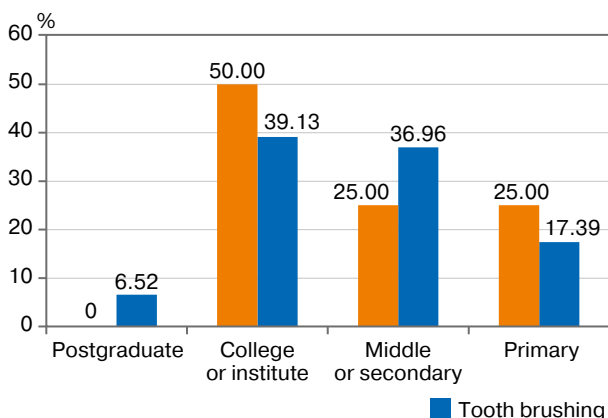
**Fig. 3.** Numbering of decay teeth according to type of school

**Рис. 3.** Количество кариозных зубов в зависимости от типа школы

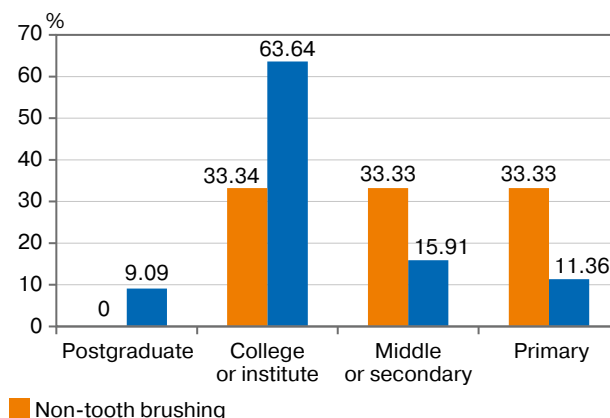
On the other hand, in private school the highest prevalence rate of tooth brushing were in college educational level of children (63.64%), while lowest percentage was in paternal postgraduate (9.09%). However, the percent of non-tooth brushing children was equally distributed in primary and secondary educational level in percentage were (33.33%), respectively. While, in college level was (33.34%). Meanwhile, the lowest percentage was in postgraduate father (0.00%) as in the (Fig. 4).

#### Distribution of cleaning status according to mother educational level

The Fig. 4 showed the cleaning status distribution according to educational level of father; were the highest percentage of tooth brushing in public school in children these have secondary father education level (39.13%), while the lowest percentage was in postgraduate father (0.00%). In contrast, the percentage of non-tooth brushing children were equally distributed in primary and college father education in percentage (50.00%).



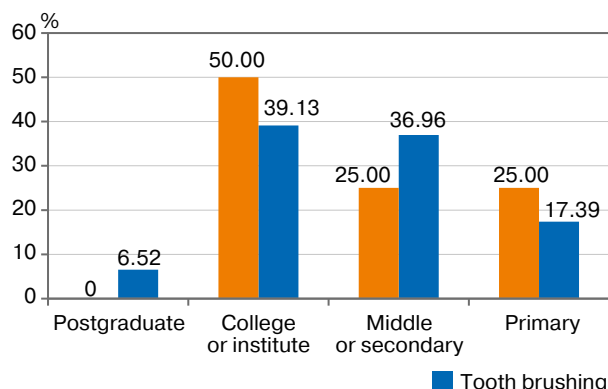
**A**



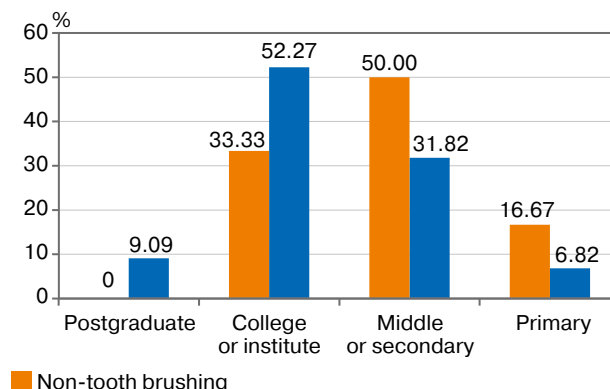
**B**

**Fig. 4.** Cleaning status distribution according to paternal educational level in public school (A) and in private school (B)

**Рис. 4.** Распределение гигиенического статуса детей в государственных школах (A) и в частных школах (B) в зависимости от уровня образования отцов



**A**



**B**

**Fig. 5.** Distribution of cleaning status in public school (A) and in private school (B) according to maternal educational level

**Рис. 5.** Распределение гигиенического статуса детей в государственных школах (A) и в частных школах (B) в зависимости от уровня образования матерей

As well as, equally distributed in secondary and postgraduate father of children in percent (0.00%). On the other hand, in private school, the highest prevalence rate of tooth brushing were in college educational level of children (52.27%), while lowest percentage was in primary father (6.82%). However, the percent of non-tooth brushing children was highest in college or instituted father level (33.33%). While, the lowest percentage level was in postgraduate father (0.00%) as in (Fig. 5).

#### **Distribution of cleaning status of children according to father educational level**

The Table 1 revealed the cleaning status distribution according to paternal educational level; were the highest percentage of tooth brushing in public school in children these have college or institute father education level (39.13%), while the lowest percentage was in postgraduate father (6.52%). In contrast, the lowest percentage of non-tooth brushing children in postgraduate educational father level (0.00%). While, the highest percentage was in college or institutional education level with percentage (50.00%).

On the other hand, in private school the highest prevalence rate of tooth brushing were in college educational level of children (63.64%), while lowest percentage was in paternal postgraduate (9.09%). However, the percent of non-tooth brushing children was equally distributed in primary and secondary educational level in percentage were (33.33%), respectively. While, in college level was (33.34%). Meanwhile, the lowest percentage was in postgraduate father (0.00%).

#### **Distribution of cleaning status according to mother educational level**

The Table 2 showed the cleaning status distribution according to educational level of mother; were the highest percentage of tooth brushing in public school in children these have secondary mother educational level (39.13%), while the lowest percentage was in postgraduate mother education (0.00%). In contrast, the percentage of non-tooth brushing children were equally distributed in primary and college mother education in percentage (50.00%). As well as, equally distributed in secondary and postgraduate mother of children in percent (0.00%).

On the other hand, in private school, the highest prevalence rate of tooth brushing were in college educational level of children (52.27%), while lowest percentage was in primary mother (6.82%). However, the percent of non-tooth brushing children was highest in college or instituted mother level (33.33%). While, the lowest percentage level was in postgraduate maternal level (0.00%).

#### **Prevalence Dental caries according to school type and paternal educational level**

The Table 3 showed the numbering of decay teeth according to educational status of father. In public school, the highest percentage of children that not have dental decay were in these have primary father education level (60.00%), while the lowest percentage was in secondary and postgraduate father (0.00%). In contrast, the percentage of children these have (1-4) decay

**Table 1.** Cleaning status distribution according to paternal educational level (%)

**Таблица 1.** Распределение гигиенического статуса детей в зависимости от уровня образования отцов, %

| Educational status of father | Public         |                    | Private        |                    |
|------------------------------|----------------|--------------------|----------------|--------------------|
|                              | Tooth brushing | Non-tooth brushing | Tooth brushing | Non-tooth brushing |
| Primary                      | 17.39          | 25.00              | 11.36          | 33.33              |
| Middle or secondary          | 36.96          | 25.00              | 15.91          | 33.33              |
| College or institute         | 39.13          | 50.00              | 63.64          | 33.34              |
| Postgraduate                 | 6.52           | 0.00               | 9.09           | 0.00               |
| Total                        | 100.00         | 100.00             | 100.00         | 100.00             |

**Table 2.** Distribution of cleaning status according to maternal educational level (%)

**Таблица 2.** Распределение гигиенического статуса детей в зависимости от уровня образования матерей, %

| Educational level of mother | Public         |                    | Private        |                    |
|-----------------------------|----------------|--------------------|----------------|--------------------|
|                             | Tooth brushing | Non-tooth brushing | Tooth brushing | Non-tooth brushing |
| Primary                     | 26.09          | 50.00              | 6.82           | 16.67              |
| Middle or secondary         | 39.13          | 0.00               | 31.82          | 50.00              |
| College or institute        | 34.78          | 50.00              | 52.27          | 33.33              |
| Postgraduate                | 0.00           | 0.00               | 9.09           | 0.00               |
| Total                       | 100.00         | 100.00             | 100.00         | 100.00             |

teeth were highest distributed in the college father education in percentage (44.83%), while, lowest in primary father of children (13.79%). However, the children that have secondary father education have highest percentage level of dental caries (63.64%) with range (4-10), while the lowest percentage was in postgraduates' father of children. Furthermore, all children not have dental caries more than 10 as in table below.

On the other hand, in private school, the children that have college father education have highest prevalence rate of non-dental caries (66.67%), followed by postgraduates' father of children with percentage (33.33%). The children that have college education have teeth caries in (1-4) teeth with highest percentage (53.85%), likewise, the highest percentage of dental decay in (4-10) teeth were in college father education. Lastly, the highest percentage of dental decay in more than 10 teeth was in college or institutional father educational level (80.00%) as in the table above.

#### Numbering of Dental caries according to type of school and maternal educational

The Table 4 showed the numbering of decay teeth according to educational status of mother. In public school, the highest percentage of children that not have dental decay were in these have primary father education level (50.00%), while the lowest percentage was in postgraduate father (0.00%). In contrast, the percentage of children these have (1-4) decay teeth were highest distributed in the secondary mother education in percentage (44.83%), while, lowest in postgraduates'

mother of children (00.00%). However, the children that have college mother education have highest percentage level of dental caries (45.45%) with range (4-10), while the lowest percentage was in postgraduates' mother of children (0.00%). Furthermore, all children not have dental caries more than 10 as in table below.

On the other hand, in private school, the children that have college mother education have highest prevalence rate in of non-dental caries (100.00%). The children that have college education of mother have dental caries in (1-4) teeth with highest percentage (50.00%), likewise, the highest percentage of dental decay in (4-10) teeth were in college or institutional mother education (47.37%). Lastly, the highest percentage of dental decay in more than 10 teeth was in secondary or middle mother educational level (60.00%) as in the table above.

#### Distribution of cleaning status according to school type in relation to socioeconomic level of family

The Table 5 illustrated the cleaning status distribution according to socioeconomic level of family; were in public school the highest percentage of tooth brushing seen in family of intermediate economic level with percentage level (67.39%), while the non-tooth brushing children showed equally distribution (50.00%) in intermediate and good economic level family. In another side, in private school; the highest percentage of tooth brushing children seen in family that have good economic status (65.91%). However, the family of middle economic level had highest percentage (66.66%) of non-tooth brushing children as shown in table below.

**Table 3.** Numbering of decay teeth according to paternal educational level (%)

**Таблица 3.** Количество кариозных зубов в зависимости от уровня образования отцов, %

| Educational level<br>of father | Public             |        |        |      | Private |        |        |        |
|--------------------------------|--------------------|--------|--------|------|---------|--------|--------|--------|
|                                | No. of decay teeth |        |        |      |         |        |        |        |
|                                | 0                  | 1-4    | 4-10   | > 10 | 0       | 1-4    | 4-10   | > 10   |
| Primary                        | 60.00              | 13.79  | 18.18  | 0.00 | 0.00    | 15.38  | 18.75  | 0.00   |
| Middle or secondary            | 0.00               | 37.93  | 63.64  | 0.00 | 0.00    | 19.23  | 18.75  | 20.00  |
| College or institute           | 40.00              | 44.83  | 18.18  | 0.00 | 66.67   | 53.85  | 56.25  | 80.00  |
| Postgraduate                   | 0.00               | 3.45   | 0.00   | 0.00 | 33.33   | 11.54  | 6.25   | 0.00   |
| Total                          | 100.00             | 100.00 | 100.00 | 0.00 | 100.00  | 100.00 | 100.00 | 100.00 |

**Table 4.** Numbering of decay teeth according to maternal educational level (%)

**Таблица 4.** Количество кариозных зубов в зависимости от уровня образования матерей, %

| Educational level<br>of mother | Public             |        |        |      | Private |        |        |        |
|--------------------------------|--------------------|--------|--------|------|---------|--------|--------|--------|
|                                | No. of decay teeth |        |        |      |         |        |        |        |
|                                | 0                  | 1-4    | 4-10   | > 10 | 0       | 1-4    | 4-10   | > 10   |
| Primary                        | 50.00              | 24.14  | 27.27  | 0.00 | 0.00    | 10.71  | 5.26   | 0.00   |
| Middle or secondary            | 10.00              | 44.83  | 27.27  | 0.00 | 0.00    | 28.57  | 42.11  | 60.00  |
| College or institute           | 40.00              | 31.03  | 45.46  | 0.00 | 100.00  | 50.00  | 47.37  | 40.00  |
| Postgraduate                   | 0.00               | 0.00   | 0.00   | 0.00 | 0.00    | 10.72  | 5.26   | 0.00   |
| Total                          | 100.00             | 100.00 | 100.00 | 0.00 | 100.00  | 100.00 | 100.00 | 100.00 |

**Table 5.** Distribution of cleaning status according to socioeconomic level of family (%)

**Таблица 5.** Распределение гигиенического статуса детей в зависимости от социально-экономического уровня семьи, %

| Socioeconomic level of family | Public         |                    | Private        |                    |
|-------------------------------|----------------|--------------------|----------------|--------------------|
|                               | Tooth brushing | Non-tooth brushing | Tooth brushing | Non-tooth brushing |
| Weak                          | 0.00           | 0.00               | 0.00           | 0.00               |
| Intermediate                  | 67.39          | 50.00              | 34.09          | 66.66              |
| Good                          | 32.61          | 50.00              | 65.91          | 33.34              |
| Total                         | 100.00         | 100.00             | 100.00         | 100.00             |

**Table 6.** Numbering of decay teeth according to socioeconomic level of family (%)

**Таблица 6.** Количество кариозных зубов в зависимости от социально-экономического уровня семьи, %

| Socioeconomic level of family | Public             |        |        |      | Private            |        |        |        |
|-------------------------------|--------------------|--------|--------|------|--------------------|--------|--------|--------|
|                               | No. of decay teeth |        |        |      | No. of decay teeth |        |        |        |
|                               | 0                  | 1-4    | 4-10   | > 10 | 0                  | 1-4    | 4-10   | > 10   |
| Weak                          | 0.00               | 0.00   | 0.00   | 0.00 | 0.00               | 0.00   | 0.00   | 0.00   |
| Middle                        | 63.64              | 68.97  | 54.55  | 0.00 | 0.00               | 39.29  | 40.00  | 25.00  |
| Good                          | 36.36              | 31.03  | 45.45  | 0.00 | 100.00             | 60.07  | 60.00  | 75.00  |
| Total                         | 100.00             | 100.00 | 100.00 | 0.00 | 100.00             | 100.00 | 100.00 | 100.00 |

### Dental caries prevalence in relation to the socioeconomic status of the family

The prevalence of decay teeth of children in public school children as following [the intermediate socioeconomic level of family showed highest percentage of children that not have dental caries with level (63.64%), also, the highest percentage of children that have (1-4) dental caries were in middle family level (68.97%), likewise, the children that have (4-10) teeth decay have highest level of percentage in middle family socioeconomic level (54.55%), whereas, the public school children not have and teeth decay in more than 10 of teeth].

On the other hand, in private school; [the (100.00%) of children not have dental caries in good socioeconomic level family, (60.07%) of children have dental caries in number (1-4) of teeth, (60.00%) of children have dental caries in numbering of (4-10) of teeth, as well as the percentage of children these have dental caries in more than 10 of teeth were (75.00%), respectively in good socioeconomic level of family] as shown in the (Table 6).

### DISCUSSION

Globally, dental caries persists as a significant chronic problem, impacting 60–90% of school-aged children and virtually all adults [11]. The frequency of caries in this research was correlated with the kind of school, household socioeconomic position, and parental education levels. Furthermore, the tooth brushing findings of this study are inconsistent with those of Ridho and Sofyan, who asserted that low parental income adversely affects the maintenance of oral health services for their children. Conversely, higher parental income and education correlate with a reduced incidence of caries in children. Notably, this study observed the highest prevalence of dental caries in private schools [12].

Karki et al. reported a significant incidence of dental caries among schoolchildren, attributing it to the low frequency of teeth brushing and other contributing factors [13].

Furthermore, children enrolled in public schools, whose parents possessed only primary education or less, along with those from low socioeconomic status (SES) backgrounds, demonstrated the highest incidence of dental caries in the study conducted by Alshayeb and Dashash [14]. Additionally, it was shown that children who did not engage in regular tooth brushing, failed to utilise dental floss or mouthwash, sought dental care solely when necessary, and lacked parental oversight, all contributed to the prevalence of caries, corroborating the findings of this study [15].

In an alternative context, Alhaffar et al. reported that the caries prevalence among 12-year-olds reached 86% by 2019 [16]. Nonetheless, it corresponds with the 2023 research conducted by Mesrabi et al., which reported a caries prevalence of 90.4% among children aged 10–13 years in Damascus [17], among comparable rates in Iran (89.9%) [18] and Saudi Arabia (91.3%) [19].

The result of such variation in prevalence in this study is probably because of the differences in sample size, demographic factor, dietary habits, which can explain the differences in the results as compared to other studies done in Iraq like study by Baghdady and Ghose in Baghdad [20].

In certain tables of this study, the prevalence of dental caries was higher among children from families with reduced socioeconomic status (SES). This finding is consistent with the findings of the study conducted by Alshayeb and Dashash in 2025 [14]. Nevertheless, the findings of this investigation fail to align with those of Alshayeb and Dashash, who demonstrated that the

prevalence of cavities was substantially higher in children attending public schools than in private schools.

Similarly, additional studies have shown a greater frequency of caries in children from better socioeconomic status households, perhaps because to increased sugar intake and frequent snacking [21; 22]. Ghandour, however, identified no statistically significant disparity in caries frequency between socioeconomic categories [23]. These results contradict research associating poor socioeconomic status with heightened caries risk [24; 25].

The occupation of mother presents a complex effect on the oral health and caries levels of the children. That can be explained by the fact that there might be less supervision and irregular family routine, and that can negatively influence the diet, oral care [26–32].

## CONCLUSION

The dental caries prevalence among the schoolchildren of the age group 12 years in this study revealed that there is a variation in terms of prevalence between the public and private school students of Al-Samawah City. Over about sampling techniques, amount of sample relative to associated factors in this province; in general, these outcomes portrayed that highest prevalence no of dental caries was in Children of non-

government school. Additionally, more decaying teeth have been found to relate to a child whose parents possess secondary and in addition, college or institutional education qualification. That, the present findings indicated the most significant importance of dental caries prevention and dental caries treatment amongst the school children.

## RECOMMENDATIONS

The low prevalence of caries among kids should be maintained by creating more awareness and introducing effective measures of oral health care to enhance the dental health of the school kids in Samawa city further. The authors of this study suggest that the nutritional status of school children should be studied with greater sample size and greater dispersion of the schools in this province, and regional distribution of dental caries should also be studied since they may have substantial influence not only on the gingival health but also, on the development of a good nutritional school program, moreover, it is suggested to develop study surveys that can be undertaken after every five years that can monitor dental caries and effectiveness of such a program. All in all, the regular visit to the dentist, dental floss, and the brush to reduce the incidences of dental caries in children.

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## INFORMATION ABOUT THE AUTHORS

**Ahmed Jameel Obayes** – Assistant Lecturer, College of Dentistry, Al-Muthanna University, Al-Muthanna, Iraq; <https://orcid.org/0009-0004-9324-2160>

**Hiba Ahmed Saeed** – Lecturer, College of Dentistry, Al-Muthanna University, Al-Muthanna, Iraq; <https://orcid.org/0000-0003-1512-6688>

## ИНФОРМАЦИЯ ОБ АВТОРАХ

**Ахмед Джамиль Обайес** – младший преподаватель. Колледж стоматологии Университета Аль-Мутанна, провинция Аль-Мутанна, Ирак; <https://orcid.org/0009-0004-9324-2160>

**Хиба Ахмед Саид** – преподаватель. Колледж стоматологии Университета Аль-Мутанна, провинция Аль-Мутанна, Ирак; <https://orcid.org/0000-0003-1512-6688>

## AUTHOR'S CONTRIBUTION

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