

## Evaluation Of Attitude, Knowledge And Practice Towards Oral Hygiene Among School Children

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### تقييم المعرفة والممارسة تجاه صحة ونظافة الفم بين أطفال المدارس

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#### Abstract:

The purpose of current study was to evaluate and determine the level of the attitude, knowledge and practices of school children towards health of oral cavity in Zliten - Libya. A descriptive cross-sectional survey was carried out including 52 schoolchildren of age 9 male (24) and female (28) in Zliten City, using random sampling technique from January - May 2024. A descriptive study was applied to achieve the health of oral cavity, the target of current study was students in the 3th grade of primary schools, Data analysis was: a questionnaire that included 14 closed ended questions to access level of the attitude, knowledge and practices of school children. The overall level knowledge participants were satisfactory but their practices toward oral hygiene were remain poor, the data divided to 46% of males and 54% of females. The healthy oral cavity of schoolchildren was achieved by cleaning their teeth every day at morning by using toothpaste with toothbrush. Huge toothache was essential cause to visit a dental clinic. The promotion of health of oral cavity and prevention programs have to be available in schoolchildren. This will lead to the improvement of attitudes, knowledge and behavior. Overall, Establishment of oral health education programs and periodic visits by dentists play a valuable role in achievements the health of oral cavity behaviors of school children, which can have long-term benefits on oral and dental health care.

## الملخص

كان الغرض من الدراسة هو تقييم وتحديد مستوى المعرفة والممارسات لدى أطفال المدارس تجاه نظافة الفم في مدينة زليتن- ليبيا. تم إجراء مسح وصفي مقطعي بين 52 من الذكور و28 من الإناث من أطفال المدارس الحكومية بعمر 9 سنوات من كلا الجنسين الذين يعيشون في مدينة زليتن باستخدام تقنية أخذ العينات العشوائية في الفترة من يناير إلى مايو 2024 في مدينة زليتن-ليبيا. تم إجراء إحصائية وصفية لتقييم ممارسة نظافة الفم، وكان هدف هذه الدراسة طلاب الصف الثالث الابتدائي، إستبيان يتضمن 14 سؤالاً مغلقة لتقييم مستوى المعرفة والممارسات من أطفال المدارس نحو نظافة الفم. وكانت النتائج كالتالي: المستوى العام للمعرفة لدى المشاركين كان مرضياً ولكن ممارساتهم تجاه نظافة الفم كانت سيئة، وتنقسم البيانات إلى 46% من الذكور و54% من الإناث. وكانت الخلاصة: فرشاة الأسنان مع المعجون هي أكثر أدوات نظافة الفم شيوعاً المستخدمة في تنظيف الأسنان، وقد لوحظ أن عدداً أكبر من تلاميذ المدارس ينظفون أسنانهم في الصباح. كان ألم الأسنان هو السبب الرئيسي لزيارة طبيب الأسنان. يجب أن يكون تعزيز نظافة الفم وبرامج الوقاية موجوداً لدى أطفال المدارس من أجل تحسين مستوى المعرفة والسلوك. بشكل عام، يلعب إنشاء برامج التثقيف في مجال صحة الفم والزيارات الدورية لأطباء الأسنان دوراً قيماً في تعزيز المعرفة والسلوكيات الخاصة بصحة الفم لدى أطفال المدارس، والتي يمكن أن يكون لها فوائد طويلة المدى على رعاية صحة الفم والأسنان.

**الكلمات المفتاحية:** المعرفة، المواقف، نظافة الفم، أطفال المدارس.

## Introduction

The oral cavity is often referred to as the doorway to the body [1], that reflects to overall health and enabling people to perform vital biological tasks including breathing, speaking, and eating. as well as psychological components including happiness, self-assurance, and the capacity to work and socialize with people without experiencing pain or discomfort [2,3] Proper and maintaining dental care habits like brushing, flossing prevent dental problems and complications up to 80% [4]. Unfortunately, tooth decay is an issue that begins impacting dental development begins early in infancy, and the highest occurrence of untreated cavities in young ages with primary teeth occurs at age of five [5], bad oral hygiene in children should be notice at early stage to prevent the subsequent problems that may damage the deciduous teeth, A child's dental defect can impact their development and quality of life [6]. In contrast, bad oral hygiene in children can indeed have a negative impact on productivity at school, which can subsequently affect an individual's overall quality of life [7].

Dental caries and periodontal disease are a prevalent issue among school children [8, 9]. Oral hygiene refers to the practices and habits that help maintain a healthy and clean mouth, preventing dental decay (caries) and gum diseases, two primary components of oral hygiene are brushing the teeth and flossing [10]. Oral health knowledge is crucial for maintaining proper oral hygiene and achieving better oral health outcomes [11], tooth brushing programs are an essential component of oral health promotion and can indeed help prevent several oral health conditions, including dental caries (tooth decay) and chronic periodontitis (gum disease). These conditions are considered significant public health issues worldwide [12]. The surveillance of oral health knowledge, attitude, practice and Integrating community and professional expertise is crucial for promoting a healthy community and decrease oral and general health issues [13]. The attitude and knowledge of Parental have a big impact on the health of oral cavity of child's, which affects how well or poorly they have dental health status, Excellent attitude of mother about oral hygiene practice will lead to better oral hygiene of their children [14].

## Material and Methods

**Study design and setting:** A descriptive cross-sectional survey was conducted among 52 public schoolchildren of age 9 of both genders staying in Zliten City, Libya using random sampling technique from January - May 2024. The oral hygiene practice was assessed using a descriptive statistic.

**Study population:** The sample size was 52, male (24) and female (28). the urban public-school children aged 9 years attending primary school from January - May 2024 in Zliten City, Libya. The object of this study was totally included students in the 3th grade of primary schools

**Data analysis:** A questionnaire included 14 closed ended questions, The data collected was analyzed on using Microsoft Excel to assess schoolchildren's oral hygiene practices, attitudes, and knowledge at each level.

## Results

The first question was asked children if they have been brushing their teeth daily, 75% of male have been brushed their teeth daily and 86 % of female have been brushed their teeth daily. The next question was how many times the children have been cleaned their teeth daily brush their teeth ,67% of male has been brushing their teeth in morning and 71% of female have been brushing their teeth in morning .92% of male had used toothbrush for clean their teeth and 100 % of female had used toothbrush for clean their teeth. 83% of male school children had been cleaned their teeth Only Once a day, however ,9% of children have been brushing their teeth a twice a day that cleaned their teeth while 86% of female school children had been cleaned their teeth Only Once a day and 9% that cleaned their teeth twice a day. 62% of male school children have been cleaning their teeth 2 minutes while 86% of female school children have been cleaning their teeth 2 minutes. The number of school children of male who used Vertical method was 67% while Horizontal method was 21%. The number of school children of female who used Vertical method was 36% while Horizontal method and Combined method was 32% equally. 83% of male used toothpaste on Length of brush while 17 % was used Pea size for clean their teeth and 86% of female used toothpaste on Length of brush while 14 % was used Pea size for clean their teeth.

Only 45% of school children of male knew about interdental aids. For female schoolchildren only 43% knew about interdental aids .83% of male knew dental caries is related to sugar intake while 82% of female knew dental caries is related to sugar intake. The majority of male schoolchildren 87% went to the dentist when they had a problem or were in pain rather than for routine checkups. for female schoolchildren, around 86%, only visited the dentist for dental issues or discomfort rather than for routine checkups. the primary reason both male and female students did not visit the dentist was fear, affecting around 71% of each group. Economic challenges and time constraints were also significant barriers, impacting about 17% and 8% respectively for both genders. For the female students, limited access to dental services was an additional factor for 7% of them. Among male schoolchildren, the primary reason for their latest dental visit was severe pain, which accounted for 65% of their cases. The next most frequent reason was receiving a tooth extraction, at 23%. For female schoolchildren, the majority, 72%, had visited the dentist due to severe pain. However, the secondary reasons were more evenly distributed - both tooth extractions and general dental check-ups were cited by 22% of the female students.

For the male schoolchildren, the survey found that 87% of them had the habit of cleaning their tongue, while 13% did not have this habit. Turning to the female schoolchildren, the data showed a slightly lower rate of tongue cleaning. 82% of the female students reported cleaning their tongue, while 18% did not have this habit. For the male schoolchildren, only 13% reported using mouthwash when they felt it was needed. In contrast, the majority, 83%, did not use mouthwash, The female schoolchildren showed a higher rate of mouthwash usage compared to the males. 21% of the female students said they used mouthwash when they felt it was necessary. However, 72% of the female students still did not use mouthwash.

**Table 1:** Distribution size of samples according to age, gender.

Variables	Frequency	Percentage
Age	9	100
Gender		
Male	24	48
Female	28	52

**Table 2:** Oral hygiene practices.

Oral hygiene practices	Frequency	Percentage
Clean of teeth daily		
Male		75
Yes	18	25
No	6	
Female	24	86
Yes	4	14
No		
Brushing intervals		
Male		
Morning	16	67
Evening	4	16

Morning + Evening	4	17
Female		
Morning	20	71
Evening	3	11
Morning + Evening	5	18
Oral hygiene method used		
Male		
Toothbrush	22	92
Others	2	8
Female		
Toothbrush	28	100
Others	-	-
Frequency of brushing the teeth per day		
Male		
Once a day	20	83
Twice a day	2	9
Three times	2	8
When I need	-	-
Female		
Once a day	24	86
Twice a day	3	11
Three times	1	3
When I need	-	-
Duration of brushing		
Male		
Less than 30 s	-	-
1 min	5	21
2 min	15	62
30 s	4	17
Female		
Less than 30 s	-	-
1 min	3	11
2 min	24	86
30 s	1	3
Tooth brushing method		
Male		
Vertical method	16	67
Horizontal method	5	21
Combined method	3	12
Others	-	-
Female		
Vertical method	10	36
Horizontal method	9	32
Combined method	9	32
Others	-	-
Cleaning tongue		
Male		
Yes	21	87
No	3	13
Female		
Yes	23	82
No	5	18
Time to use mouth wash		
Male		
After each brushing	-	-
When I feel the need	3	13
In the morning	1	4

In the evening	-	-
I do not use	20	83
Female		
After each brushing	-	-
When I feel the need	6	21
In the morning	2	7
In the evening	-	-
I do not use	20	72

**Table 3:** Knowledge and awareness of dental and general health.

Knowledge and awareness of dental and general health	Frequency	Percentage
Tooth paste size with toothbrush		
Male		
Length of brush	20	83
Pea size	4	17
Less than a pea	-	-
Others	-	-
Female		
Length of brush	24	86
Pea size	4	14
Less than a pea	-	-
Others	-	-
Oral hygiene aids		
Male		
Yes	10	45
No	14	55
Female		
Yes	12	43
No	16	57
Dental caries is related to sugar intake		
Male		
Yes	20	83
No	4	17
Female		
Yes	23	82
No	5	18

**Table 4:** Attitudes toward professional dental care.

Attitudes toward professional dental care	Frequency	Percentage
Causes for last visit to the dental clinic Treatment sought during last visit		
Male		
Check my teeth	2	1
Take X-rays	-	-
Have scaling	1	-
Have fluoride	-	-
Treat gums	-	-
Have filling	1	-
Sever pain	15	62
Have crown	-	-
Have orthodontic Rx	-	-
Have tooth extraction	5	21

Others	-	-
Female		
Check my teeth	4	1
Take X-rays	-	-
Have scaling	1	-
Have fluoride	-	-
Treat gums	-	-
Have filling	1	1
Sever pain	18	64
Have crown	-	-
Have orthodontic Rx	-	-
Have tooth extraction	4	1
Others	-	-
Time visits a dentist		
Male		
Only in problem or pain	21	87
Once in 3 months	-	-
Once in 6 months	1	-
Between 1-2 years	2	1
Female		
Only in problem or pain	24	86
Once in 3 months	1	-
Once in 6 months	-	-
Between 1-2 years	3	1
Schedule an early checkup at the dental clinic		
Male		
Fear from a dentist	17	71
Fear from infection	-	-
Economic problems	4	17
Time problem	2	8
Limited access dental clinic	-	-
Others	1	4
Female		
Fear from a dentist	20	71
Fear from infection	-	-
Economic problems	3	11
Time problem	3	11
Limited access dental clinic	2	7
Others	-	-

## Discussion

The current study assesses the peak of knowledge and attitude of schoolchildren, in regard to the utilizing of health of the oral cavity daily evaluation. Bad health of oral cavity has bad effect on the education on children [15]. Overall level knowledge participants were satisfactory, but their practices toward oral hygiene were remain poor that is mimic to the research done by following reference [16]. In this study ,75% of male schoolchildren had been brushing their teeth daily while 86% of female schoolchildren had been brushing their teeth daily, the results resemble to research prepared by following reference [17], whereas in the study done in Pakistan reported that 57% of high socio-economic school children only were aware of brushing to prevent dental problems [18], In the study done in China, reported that 100% of schoolchildren cleaned their teeth everyday[19].In our study, the percentage who cleaning their teeth using toothbrush just one time a day was 83% of male schoolchildren while twice a day was 9%, for female school children was 86% that cleaned teeth using toothbrush only one time a day while two times a day was 9%, Similar findings were reported by other international studies[20]. Most of the students (48.7%) had been cleaned their teeth one time a daily. Only 8.1% had been brushed their teeth at least two times a day [21].

Another study in Central Nepal reported one time a day cleaning among 77.5% and two times a day among 16.9% of schoolchildren [22]. Also, a study in Jordan reported 69% of school children cleaning

two times a day and 17% reported cleaning one time a day. This is more than that reported in Australia that showing only 65% of schoolchildren cleaning two times or more daily whereas 35% of schoolchildren cleaned one time or less a day [23]. Regarding to the visiting of dental clinic, the primary reason for their latest dental visit for schoolchildren male only when they have dental pain 65% while second reason was a tooth extraction, at 23%. For female schoolchildren, the primary reason 72%, had visited the dentist due to severe pain while second reason was both tooth extractions and general dental check-ups, at 22%. A same result was in Iran proving in their study that pain is the main driving factor for children to visit the dentist. On the other hand, 51.64% of current study participants answered that they should visit dental clinic only when they have toothache [24] as compared to 55% of the Saudi Arabian participants [25].

Related to the optimal duration of the brushing 62% of male school children have been cleaning their teeth 2 minutes while 86% of female school children have been cleaning their teeth 2 minutes the following answers being given by those who complete the cleaning with toothbrush at 1 minute, 21% of male school children while 11% of female school children cleaned their teeth 1 minutes, This parallels research that indicates 74% of the questioned group answered correctly, that it is intervals from 2 to 4 minutes, the following answers being given by those who perform the brushing 1 minute (16.7%), that the time spent cleaning teeth was more than 2 minute for male 31% and for female 17% while 2 minute for male was 4% and for female was 7%, while the time spent cleaning less than 2 minute for male was 4% and for female 8% [26].

When asked about tooth brush used when brushing their teeth, schoolchildren of male used Length of brush 83% and Pea size 17% while schoolchildren of Female used Length of brush 86% and Pea size 14% that parallels studies during inquiries regarding ideal amount of toothpaste which indicated during brushing of teeth, it has been found that only 38% knew that have to be resemble a pea, the frequency being higher for female subjects (39%) in grade X. Around 83% of male while 82% of female had knowledge of the cause of dental caries that bacteria and sugar intake but it was lower than reported in Pondicherry with oral health knowledge of 50% [27]. 92% of male used toothbrush for clean their teeth and 100 % of female used toothbrush for clean their teeth. Only 45% of school children of male knew about interdental aids, for female students only 43% knew about interdental aids. On the other hand, the application of dental floss to clean embrasure spaces were still uncommon at the secondary school students. When asked the schoolchildren regarding to the technique of cleaning teeth a 67% of male school children the response was, they used Vertical method while Horizontal method was 21%, for female school children used Vertical method was 36% while Horizontal method and Combined method was 32% equally. Previous studies have reported a similar result that 54.9% used Vertical method while Horizontal method was 28.3%, also another study done which reported that students <13 years old used Horizontal Techniques 35.9% and Vertical 27.8% and Combination 29% while students >13 years used Horizontal 38.2% and Vertical 21.7% and Combination 28.7%.

## Conclusion

The most widely shared technique indicated for cleaning teeth is brushing them with toothpaste using different kinds of tooth brush; it was noticed that the most students had been cleaned their teeth at morning utilizing toothbrush. The essential cause for visiting dental clinic was toothache. The promotion of health of oral cavity and prevention programs have to be present at school to raise the degree of attitudes, knowledge, and behavior. Establishment of oral health education programs in the school curriculum that will help a life-long oral hygiene practice in the school environment and at large in the community with the support of teachers and parents are crucial.

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