

## Oral Health Knowledge Primary School Children in Third Al-Rusafa Educational Directorate

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### KEYWORDS

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### ABSTRACT

**Objective:** oral health knowledge of primary school children, and to find out the relationship between oral health knowledge of primary school children with certain variables (child age, gender, education level of parent, economic status of family).in Third Al- Rusafa Educational Directorate. **Methodology:** A descriptive study of the oral health knowledge of primary school children. The study was conducted (November 1<sup>st</sup> 2020 to June 15<sup>th</sup> 2021). The selected was probability sampling (a simple random) of the study setting includes (34) primary schools out of (337) school. The schools selected (10%) of total number of schools. The students were selected using a probability sampling (a systematic random) of 346 students (male-197 and female-149) was selected from (34) school they were in the primary sixth class. The students selected (15%) of the total number of students and they were of age (11 to 13) year. The data was collected for the present study through the self- administration technique by using the questionnaire that designed by the researchers. Validity through a panel of (14) experts and the reliability of the questionnaire is determined through the pilot study. **Results:** The findings of present study revealed that (56.9%) from the sample were from males, and them were at age 12 years. (50.0%) of the study sample were from low socio-economic class. The knowledge is affected by same demographic characteristic example (age, education level of father, education level of mother, occupation of mother, and socio-economic status). Also, the results showed that students' knowledge about oral health was middle (50.3%) and poor (45.1 %) respectively. **Recommendations:** The study recommended increasing students' awareness through the media about the importance of oral health and how to take care of it, and the Ministry of Education in Iraq should be included instructional programs about oral health and teeth in their curriculum of the schools.

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### 1-INTRODUCTION

Oral health is important for physical and psychological well-being. There is evidence that oral health depends upon biological, social, environmental, mental and physical factors. It has been reported the variations in prevalence of caries and periodontal disease among different sub-groups of the same society<sup>(1)</sup>. The goal of oral health promotion is knowledge to be shared with members outside the dental profession.

The common oral diseases, caries and periodontal diseases are the two foremost oral pathologies that remain widely prevalent and affect all populations throughout the lifespan<sup>(2)</sup>. The improvement of oral hygiene is considered to be one of the most important goals of dental health education. School-age children are the primary focus for educating because the earlier a child is reached; the greater is the potential for positively affecting child's attitudes, values and behaviors. It is

well known that the most efficient way to prevent periodontal disease is to control it at the childhood and teenage life. It is also important to take advantage of the school setting where it is possible to reach large number of school children with well-planned preventive program <sup>(3)</sup>. The mouth is vital to everyday life not only does good oral health means being free of dental caries and gums disease, it is also means being free of chronic oral pain condition. Caries is a disease that appears in all countries and all population but various in scopes and degree of severity <sup>(4)</sup>. Dental caries is an infectious disease, which causes destruction of teeth by acid-forming bacteria found in dental plaque. The world health organization has ranked it as number three among all chronic non-communicable disease that require worldwide attention for prevent and treatment. But is still a common disease among children and adolescents and affects 46% of 4-year-old children and 80% of 15-year-old <sup>(5)</sup>.

## **2-METHODOLOGY**

The present study is a descriptive design which is appropriately structured for oral health knowledge, of primary school children in Third Al- Rusafa Educational Directorate. The study was conducted from (November 1st 2020 to June 15th 2021). The study was carried-out in 34 primary schools; this number selected throughout the use of probability sampling (a simple random sampling) of 337 schools, from two judicial in Al-Sadder city. The sample of the study setting includes (34)

## **3-RESULTS**

Table (1) shows that the highest percentages (51.2%) of the sample were reported at age 12 yrs. More than half (56.9%) of the sample were male. The results revealed a highest educational level (primary and intermediate) for most students' fathers (24.0%), (22.8) respectively and for students' mothers (30.6%) primary. The majority of students' fathers

primary schools out of (337) which are distributed in (6) districts. (10%) the schools selected of total number of schools. Third Al-Rusafa education directorate in Al-Sadler city divided to two judicial each judicial divided to three districts. The schools selected randomly include both (boys' schools and girls' schools). The schools chosen by writing the names of all schools of the (6) districts Sadder /1 and Sadder / 2 on a piece of paper and put it in two bags for boys' and girls' schools' names to be mixed together. Then, one school had withdrawn its name randomly from the bag. For the purpose of the present study a questionnaire format was constructed for knowledge of primary school children related to oral health. **Part One** Socio-demographic characteristics, related to of the study group, which includes school students (age, gender, level of education of father and mother, occupation of father and mother, and socioeconomic status). **Part Two** related to Knowledge school students about oral health, this part consists of (10) items concerned with the knowledge of student's oral health and they are responded by Yes, (correct answer, scored =2), and no, (incorrect answer, scored =1). Data was collected through utilization of the study instrument (questionnaire format) for the period from (18<sup>th</sup> February to the 24<sup>th</sup> April in 2021). The time for answer the question take (15-20) minutes to fill the questionnaire format.

Data was analyzed through the application of descriptive and inferential statistical approaches, and all the statistical procedures were tested at  $P \leq 0.05$ .

(41.9%) were employed, while students' mothers, most of them (71.4%) were housewives.

Table (2) presents the levels of the socio-economic status of students families were low and moderate (50.0%, 45.4%) respectively.

**Table (1) Distribution of the Study Sample according to the Socio-demographical Characteristics (N=346)**

Socio-demographics variables		Frequency	Percentage (%)
<b>Age (years)</b>	11	98	28.3
	<b>12</b>	<b>177</b>	<b>51.2</b>
	13	71	20.5
<b>Gender</b>	<b>Male</b>	<b>197</b>	<b>56.9</b>
	Female	149	43.1
<b>Educational level of the father</b>	Illiterate	38	11.0
	Read & Write	65	18.8
	<b>Primary</b>	<b>83</b>	<b>24.0</b>
	Intermediate	79	22.8
	Secondary	31	9.0
	Institute	15	4.3
	College & higher	35	10.1
<b>Educational level of the mother</b>	Illiterate	43	12.4
	Read & Write	76	22.0
	<b>Primary</b>	<b>106</b>	<b>30.6</b>
	Intermediate	75	21.7
	Secondary	34	9.8
	Institute	1	0.3
	College & higher	11	3.2
<b>Occupation of the father</b>	<b>Employed</b>	<b>145</b>	<b>41.9</b>
	Free job	133	38.4
	Retired	35	10.1
	Unemployed	33	9.5
<b>Occupation of the mother</b>	Employed	31	9.0
	Free job	16	4.6
	Retired	52	15.0
	<b>Housewife</b>	<b>247</b>	<b>71.4</b>

**Table (2) Distribution of Socio –economic Status level**

Socio-economic status	Frequency	Percentage (%)
<b>Low</b>	<b>173</b>	<b>50.0</b>
<b>Moderate</b>	<b>157</b>	<b>45.4</b>
High	16	4.6

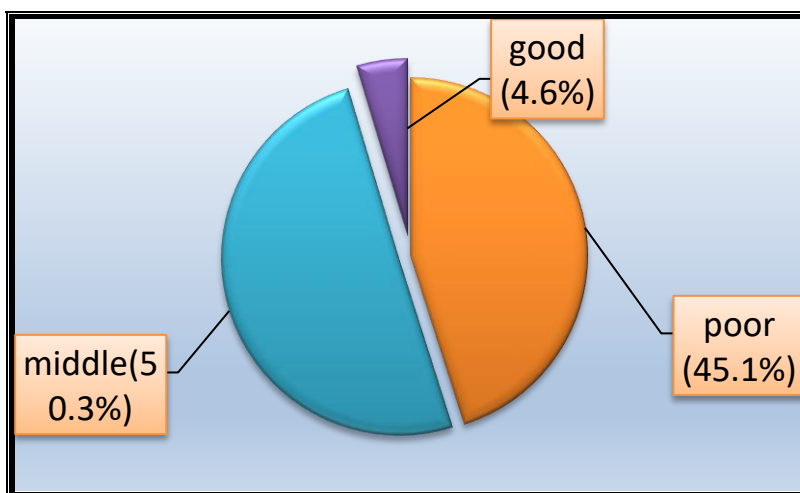
Table (3) related that (62.4%) of the students selected the cause of dental caries is bacteria and food remnants in oral cavity. (70.8%) selected a hole with black color to symptoms of tooth decay, about (61.0%) of the study sample selected that gum bleeding reflects gingivitis, only (33.8%) subjects selected fluoride as the prevention agent of tooth decay.

(46.8%) believed the tooth decay begins at bone of teeth. Approximately (60.7%) of the students were selected tooth brushing. (36.4%) student's selected using salt to prevent gum bleeding, (41.9%) of the students were selected move back and forth during brushing as method of brushing. Approximately (47.4%) of the students selected the toothpaste with

fluoride, (90.5%) of students selected sweets that have a negative impact on dental health.

**Table (3) Distribution of Students' Knowledge of Oral Health**

Students' knowledge about oral health		Frequency	Percentage (%)
Cause of dental caries	Worms	91	26.3
	<b>Bacteria and food remnants in oral cavity</b>	<b>216</b>	<b>62.4</b>
	Fungi	11	3.2
	Virus	28	8.1
Symptoms of Tooth decay	<b>A hole with black color</b>	<b>245</b>	<b>70.8</b>
	Abscess	15	4.3
	Fracture of teeth	35	10.1
	Bleeding from gingiva surrounding the tooth	51	14.7
Gum bleeding means	Healthy gum	53	15.3
	Gum recession	32	9.2
	<b>Inflamed gum</b>	<b>211</b>	<b>61.0</b>
	Good oral hygiene	50	14.5
	<b>Prevention of tooth decay</b>	<b>117</b>	<b>33.8</b>
Fluoride helps	Open appetite	50	14.5
	Cleaning teeth	112	32.4
	Keeps the gums	67	19.4
Tooth decay begins	<b>Bone of the teeth</b>	<b>162</b>	<b>46.8</b>
	Enamel	36	10.4
	Tooth pulp and crown	70	20.2
	Ivory	78	22.5
The most effective way to prevent dental caries	Mouth rinsing after meal	39	11.3
	<b>Tooth brushing morning</b>	<b>210</b>	<b>60.7</b>
	Tooth brushing after every meal	37	10.7
	Tooth brushing before going to bed at night	60	17.3
Prevent you from gum bleeding	Using toothbrush, paste	97	28.0
	Using vitamin C	45	13.0
	Using Soft food	78	22.5
	<b>Using salt</b>	<b>126</b>	<b>36.4</b>
The correct method of tooth brushing	Brush in circular motion	22	6.4
	<b>Move back and forth</b>	<b>145</b>	<b>41.9</b>
	Brush up from the bottom and down from top with circular motion	114	32.9
	Move the brush from front of teeth to back	65	18.8
Kind of toothpaste is good for dental health	Toothpaste with smell	74	21.4
	Toothpaste with salt	49	14.2
	Toothpaste with fruit taste	59	17.1
	<b>Toothpaste with fluoride</b>	<b>164</b>	<b>47.4</b>
The most harmful food for dental health	Rice	-	-
	Bread	6	1.7
	<b>Sweets</b>	<b>313</b>	<b>90.5</b>
	Milk	27	7.8



**Figure1.** Represents graphically the percentages of the three levels (Poor, Middle, and good).

Table (4) indicated that socio-demographic characteristics variables (student's age, education level of father and mother, occupation of mother) had significant relationship with the Students' Knowledge at  $P \leq 0.05$  except with some variables, such as

(gender and occupation of father). Table (5) shows the socio-economic status of the family which have high significant relationship with the students' knowledge at  $P \leq 0.05$ . Table (6) shows the highest percentage (31.8%) of students' knowledge sources related to oral health from family.

**Table (4) Association between Socio- demographical Characteristics Variables and Students' Knowledge related to Oral Health**

Socio- demographical characteristics variables		Students' knowledge						P value
		Poor		Middle		Good		
		F.	%	F.	%	F.	%	
<b>Age (years)</b>	<b>11</b>	33	21.2	59	33.9	6	<b>37.5</b>	<b>0.003*</b>
	12	82	52.6	91	52.3	4	25.0	
	13	41	26.3	24	13.8	6	<b>37.5</b>	
<b>Gender</b>	Male	89	57.1	100	57.5	8	<b>50.0</b>	0.846
	Female	67	42.9	74	42.5	8	<b>50.0</b>	
<b>Educational level of the father</b>	<b>Illiterate</b>	20	12.8	18	10.3	-	-	<b>0.017*</b>
	Read & Write	41	26.3	21	12.1	3	18.8	
	Primary	28	17.9	51	29.3	4	25.0	
	Intermediate	33	21.2	40	23.0	6	37.5	
	Secondary	13	8.3	17	9.8	1	6.3	
	Institute	8	5.1	5	2.9	2	12.5	
<b>Educational level of the mother</b>	College & higher	13	8.3	22	12.6	-	-	<b>0.007*</b>
	<b>Illiterate</b>	24	15.4	19	10.9	-	-	
	Read&Write	43	27.6	26	14.9	7	43.8	
	Primary	35	22.4	66	37.9	5	31.3	
	Intermediate	33	21.2	39	22.4	3	18.8	
	Secondary	18	11.5	16	9.2	-	-	
<b>Occupation of the father</b>	Institute	1	.6	-	-	-	-	0.340
	College & higher	2	1.3	8	4.6	1	6.3	
	Employed	60	38.5	74	42.5	11	68.8	
	Free job	66	42.3	62	35.6	5	31.3	
	Retired	13	8.3	22	12.6	-	-	
<b>Occupation of the mother</b>	Unemployed	17	10.9	16	9.2	-	-	<b>0.0001*</b>
	<b>Employed</b>	8	5.1	22	12.6	1	6.3	
	Free job	6	3.8	5	2.9	5	31.3	
	Retired	23	14.7	26	14.9	3	18.8	
	<b>Housewife</b>	<b>119</b>	<b>76.3</b>	<b>121</b>	<b>69.5</b>	<b>7</b>	<b>43.8</b>	

P value= Probability value

**Table (5) Association between Socio-economic Status of the Family and Students' Knowledge related to Oral Health**

Socio-economic status of the Family	Students' knowledge						P value
	Poor		Middle		Good		
	F.	%	F.	%	F.	%	
Low	92	<b>59.0</b>	74	42.5	7	43.8	<b>0.004*</b>
Moderate	55	35.3	95	<b>54.6</b>	7	43.8	
High	9	5.8	5	2.9	2	<b>12.5</b>	

P value= Probability value

**Table (6) Distribution of Students' Knowledge Sources about Oral Health (N=346)**

Knowledge Sources	Frequency	Percentage (%)
Mass media	73	21.1
Curriculum education	85	24.6
<b>Family</b>	<b>110</b>	<b>31.8</b>
Dentist	78	22.5

#### 4-DISCUSSIONS

##### Part -1-: The distribution of the Study Sample according to the Socio-Demographical Characteristics

More than half percent of the study sample were within age of (12) years and accounted (51.2%). This result agrees with (Ahmed et al., 2019) <sup>(5)</sup> and (Suprabha et al., 2013) <sup>(7)</sup>. They found that age of the study was (12). 12-year-olds represent a standard age category used by the WHO to assess and compare dental caries levels in the permanent dentition of children worldwide.

The more than have half of the sample were male (56.9%). The findings of this study agree with the study of (Al-Omiri and Al-Wahadni, 2018) <sup>(8)</sup> and (Al-Rahim and Hamid, 2009) <sup>(9)</sup>. The student's parent, educational level (primary) and accounted (24.0%), (30.6%) respectively. This result agrees with (Smyth et al., 2020) <sup>(10)</sup>. The study results indicate that there is highly significant relationship between illiterate mothers and student's knowledge about oral health. It has been recognized that if student were to maximize their potential knowledge for oral health, they would need the full support of their parents.

Conclusions from these studies indicate that parental involvement in children's education had a powerful impact on attainment knowledge about oral health (Desforjes and Abouchaar, 2019) <sup>(11)</sup>.

The fathers of the student were (41.9) were employee, while subjects' mothers, most of them (71.4%) were housewives. The findings of this study agree with the study done by (Suresh, et al., 2020) <sup>(12)</sup>. The levels of the socio-economic status of students table (2) indicate that the majority of the students' families come low and moderate socio-economic status, and accounted (50.0%, 45.4%) respectively. The findings of this study agree with study done by (Chaloob, 2019) <sup>(13)</sup>.

Table (3) shows that more than half of the students know of the cause of dental caries are bacteria and food remnants in oral cavity. The findings of this study agree with study (Farsi et al., 2020) <sup>(14)</sup>. Two third of student know that a hole with black color is the of tooth decay. The study results indicate that there is student aware to the of tooth decay. Most of the study sample aware that gum bleeding reflects gingivitis, while the rest did not know and wrong answers such as gingival

bleeding reflects healthy gingiva and gingival recession. The finding of the study is similar to study to (Harikiran et al., 2018) <sup>(15)</sup>.

One third of the subjects aware the positive effects of fluoride on the prevention of tooth decay. The findings of this study agree with study to (Smyth et al., 2020) <sup>(9)</sup>. Approximately (60.7%) of the students were selected tooth brushing morning to be the most effective way to prevent dental caries. This finding is similar to the study done by (Das, 2021) <sup>(16)</sup>.

Students did not know what to do to prevent gum bleeding although (36.4%) they was selected using salt to do to prevent gum bleeding. (41.9%) of the students don't know the correct method of tooth brushing and wrong answers, move back and forth. The findings of this study agree with study to ((Al-Omiri and Al-Wahadni, 2020) <sup>(8)</sup>. Half (47.4%) of the students know the correct answer related to the kind of toothpaste with fluoride which is good for dental health. This finding is similar to study by (AL-Bahadli, 2021) <sup>(2)</sup>. Most subjects were aware that sweets (90.5%) have a negative impact on dental health. This finding is similar to study by (Chalooob, 2019) <sup>(13)</sup>.

#### **Table (4): Association between Socio-demographical Characteristics Variables and Students' Knowledge related to Oral Health**

Table (4) the study indicated that a significant relationship between students' knowledge related to oral health and demographical characteristics of the sample like (age, education level of their father and mother, occupation of the mother and socio-economic status of the family) had significant relationship at  $P \leq 0.05$  except with some variables, such as (gender and occupation of father). There is highly significant relationship for knowledge and the age 11 years at P-value of (P=0.003). This result agrees with (Smyth et al, 2019) <sup>(10)</sup>.

#### **Table (5): Association between Socio-economic Status of the Family and Students'**

##### **Knowledge related to Oral Health**

More than half (59%) students come from families of low socio-economic status. The result of this study agrees with (Abdul Baseer et al.; 2019) <sup>(17)</sup>.

#### **Table (6): Distribution of Students' Knowledge Sources about Oral Health**

One third (31.8%) their sources of information come from the family and (21.1%) come from mass media. The findings of this study agree with study done by (Ibraheem, 2019) <sup>(18)</sup>.

#### **Recommendations:**

1-The study recommended increasing students' awareness through the media about the importance of oral health and how to take care of their teeth.

2- The Ministry of Education in Iraq should be included instructional programs about oral health and teeth in their curriculum of the schools.

3-Special attention should be directed towards the lower social class to give them the current information about dental health education.

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