Original Article

Oral health knowledge, attitude and practices in parents of preschool child in Warinchamrab Municipality, Ubon Ratchathani Province

Thunya Rangjob*, Phalakorn Suebsamran*, Pawena Limpiteeprakan*
*College of Medicine and Public Health, Ubon Rachathani University

Abstract

Dental health is a major problem in many countries. In order to better understand the dental health of preschool children in municipality areas, this study was conducted to assess the knowledge, attitudes and practices of parents in the oral health care of preschool children in the Warinchamrab municipality of Ubon Ratchathani Provinces. It also investigated the relationship between personal characteristics, knowledge, attitude and parental behavior in the oral health of preschool children. The samples were 151 parents. Data was collected by questionnaires. Multivariable logistic regression was used to study the relationship between knowledge, attitude and behavior of the parents.

Results: More than 99.3% of parents knew that brushing should be done two times a day. Only 64.2 percent of parents knew that they should check their children's teeth once a week. Regarding attitude: parents had a good attitude at 70.9 percent. They understood that their behavior is a good example for children to care for their teeth (95.4%). Nevertheless, 39.7% of parents thought that brushing teeth alone is enough for good oral health. Behavior about taking care of their child was good at 56.3 percent. They replaced the toothbrush when it was worn out (91.4%) but about 21.2% still let their children eat snacks. The result from multivariable logistic regression showed that parents with good knowledge and attitude tend to behave better by a factor of 4.28 compared to those who have poor knowledge and attitude which was statistically significant (OR_{adj}=4.28 95%CI 1.61-11.40) when controlled for age and sex.

Conclusion: Knowledge and attitudes of parents are important for good oral health care of preschool children. Therefore relevant agencies should focus on promoting parental knowledge and attitudes which lead to good oral health and prevent future cases of dental health problems in preschool children.

Keywords: dental caries, oral health care, parents

Article info:
Received: Oct 22, 2018
Revised: Dec 19, 2018
Accepted: Jan 10, 2019

นิพนธ์ต้นฉบับ

ความรู้ ทัศนคติ และพฤติกรรมของผู้ปกครองในการดูแลสุขภาพช่องปากของเด็กก่อนวัยเรียนในโรงเรียนเขตเทศบาลเมืองวารินชำราบ อำเภอวารินชำราบ จังหวัดอุบลราชธานี

ธัญญา แรงจบ*, พลากร สืบสำราญ*, ปวีณา ลิมปีทีปราการ*

*วิทยาลัยแพทยศาสตร์และการสาธารณสุข มหาวิทยาลัยอุบลราชธานี

บทคัดย่อ

สุขภาพในช่องปากจัดว่าเป็นปัญหาที่สำคัญในหลายประเทศ ดังนั้นการทำความเข้าใจเกี่ยวกับการดูแลสุขภาพช่องปากในกลุ่มเด็กก่อนวัยเรียนในเขตเทศบาลจึงมีความสำคัญ การศึกษานี้จึงมีวัตถุประสงค์เพื่อศึกษาระดับความรู้ ทัศนคติและพฤติกรรมของผู้ปกครองในการดูแลสุขภาพช่องปากของเด็กก่อนวัยเรียนในเขตเทศบาลเมืองวารินชำราบ จังหวัดอุบลราชธานี และศึกษาความสัมพันธ์ระหว่างคุณลักษณะส่วนบุคคล ความรู้ ทัศนคติ กับพฤติกรรมของผู้ปกครองในการดูแลสุขภาพช่องปากของเด็กก่อนวัยเรียน กลุ่มตัวอย่างมีจำนวน 151 คน เก็บข้อมูลโดยใช้แบบสอบถามกับผู้ปกครอง วิเคราะห์ความสัมพันธ์โดยใช้ สถิติ Multivariable logistic regression

ผลการศึกษา พบว่า ผู้ปกครองมากกว่า 99.3% มีความรู้ว่าต้องมีการแปรงฟันให้เด็กอย่างน้อยวันละ 2 ครั้ง และมี 64.2% ที่ไม่ทราบว่าควรตรวจสุขภาพช่องปากให้เด็กอย่างน้อยสัปดาห์ละ 1 ครั้ง ผู้ปกครองมีทัศนคติในภาพรวมอยู่ในระดับสูง ร้อยละ 70.9 มีทัศนคติที่เหมาะสม คือ ผู้ปกครองเป็นตัวอย่างที่ดีให้แก่เด็กในการดูแลฟัน ร้อยละ 95.4 ทัศนคติที่ ไม่เหมาะสม คือ การแปรงฟันอย่างเดียวก็เพียงพอที่จะทำให้สุขภาพฟันดีร้อยละ 39.7 ผู้ปกครองมีพฤติกรรมในภาพรวมอยู่ในระดับสูง ร้อยละ 56.3 มีพฤติกรรมที่เหมาะสม คือ มีการเปลี่ยนแปรงสีฟันให้เด็กเมื่อแปรงสีฟันมีการฟูกระจาย บาน หรือเสื่อมสภาพ 91.4 มีพฤติกรรมที่ไม่เหมาะสม คือ ให้เด็กทานขนมกรุบกรอบร้อยละ 21.2 จากผลการวิเคราะห์ความสัมพันธ์โดยใช้สถิติ Multivariable logistic regression พบว่าผู้ที่มีความรู้ และทัศนคติมีแนวโน้มที่จะมีพฤติกรรมดีมากเป็น 4.28 เท่า เมื่อเทียบกับผู้ที่มีความรู้และทัศนคติที่ไม่ดี อย่างมีนัยสำคัญทางสถิติ (OR_{adj}=4.28 95%CI 1.61-11.40) เมื่อมีการควบคุมตัวแปรอายุและเพศ

ความรู้ และทัศนคติของผู้ปกครองนั้นมีความสำคัญต่อสุขภาพช่องปากที่ดีของเด็กก่อนวัยเรียน ด้วยเหตุนี้ หน่วยงานที่เกี่ยวข้องควรเน้นการส่งเสริมความรู้ และทัศนคติของผู้ปกครองเพื่อนำไปสู่การมีสุขภาพช่องปากที่ดีและป้องกันปัญหาการเกิดโรคฟันผุของเด็กในอนาคต

คำสำคัญ: ฟันผุ, การดูแลสุขภาพช่องปาก, ผู้ปกครอง

Introduction

Tooth decay is a widespread oral disease among the world's population. Children are more likely to develop this disease than adults. In pre-school children, the problem of tooth decay reached 79.47 percent (Sopa et al, 2013). The main problem for this group is dental caries causing premature loss of teeth which affect food chewing, the development of the jaw and the arrangement of the teeth to replace the tooth. Therefore, dental care for preschool children is very important from the start. The 7th Dental Caries and Tooth Loss Survey by the Bureau of Dental Health, Department of Health, Ministry of Public Health in 2012, children aged 3 and 5 years had a prevalence of dental caries at 51.7% and 78.5%, respectively. The average tooth decay, missing tooth and filled teeth (dmft) was 2.7 teeth/person and 4.4 teeth /person. The average number of teeth was 19.9 and 20.0, respectively. Children aged 3 years had initial dental caries at 26.1% and 50.6% had untreated caries. In 5-year-old children, 26.6% had initial dental caries and 75.9% had untreated caries. In addition, the incidence of tooth decay in 3 and 5 year olds in rural areas was higher than in urban areas (Bureau of Dental Health, 2013)

The dental caries mentioned above are caused by many factors, including personal circumstances, food, environmental, social and economic factor as well as dental service factors. A study of the causes of caries in children aged 3-5 years found that the cause of oral health problems in this group mostly comes from dental care practices of parents, such as allowing children to sleep with the milk bottles, often giving candy and parents who do not care for dental health of the children. The beliefs and attitudes of parents are important to oral health in this group. Some parents believe that baby tooth decay is not important and when a tooth decays it should be removed, instead of treated about it. In fact, the baby teeth are important for the development of the face, allowing the teeth to grow normally and in the correct position. If a child loses a tooth prematurely, there will be a problem with chewing, which will affect the nutritional status and growth of the child as the amount of tooth decay increases. It can be seen that the problem of dental caries in children is partly due to the behavior of parents (Ouijirakul et al, 2013) In addition, the inappropriate consumption of starchy foods, sugar, sweets including nectars, soft drinks, and crunchy snacks along with incorrect oral health behavior are the causes of increasing tooth decay. (Koopatishart 2013)

Based on this problem, researchers have recognized the importance of oral health problems for children in kindergarten 1-3, and the oral health status of children aged 3 years in the health zone 10 was found to be 24.7% of tooth decay (Bureau of Dental Health 2005) Therefore, this research is needed to study the knowledge, attitude and behavior of parents in the oral health care of preschool children in the Warinchamrap municipality, Ubon Ratchathani Province. A second objective was to study the relationship between knowledge, attitude and parental behavior in the oral health care for preschool children. The data obtained from this study can be used to develop a plan and to set guidelines for the implementation and allocation of resources to prevent and address the problem of caries in children. In addition, data can be used as a guideline for modifying parental behavior in the dental care of preschool children. Parents are of major importance in the well-being of young children as they affect the dental care that children receive at home and their access to professional dental services.

2. Methodology

A cross-sectional descriptive study was conducted on parents who have pre-school children studying from level 1-3 in the Warinchamrab municipality area, Warinchamrap District, Ubon Ratchathani province during the months of October to December 2017. It was included the 6 schools that shown in Table 1. The sample size was calculated using the estimates of the proportion of the population. Stratified random sampling was performed by dividing the sample into groups by stratum and random sampling from all classes by simple random sampling as shown in Table 1. The sample size was 151 people.

Table 1 Number of population and sample size in each school

School	Population	Sample size
1. Warinwichachart School*	284	33
2. Suksumran School*	195	23
3. Nongtapoon 5 School*	152	18
4. NgamChit Kindergarten (Private)**	143	16
5. Bandekwarinchumrap School (Private)**	382	45
6. Kong Thabbok Upatham Fort Sunpasitthiprasong (Private)**	139	16
Total	1,295	151

Source: *Warinchumrap Municipality, 2017
**Ubon Ratchathani Primary Educational Service Area Office 4, 2017

All the parents of children who are enrolled in the 6 schools were informed about the purpose of the survey and were invited to participate and a total sample size of 151 was obtained. Data was collected by a single investigator who distributed the questionnaires to the parents and collected the data on the spot after they had completed. A pilot study was conducted to validate the questionnaire among 30 parents visiting the preschool in the Children Development Center of the College of Medicine and Public Health at Ubon Ratchatani University to assess the reliability of the questionnaires. The questionnaires were completely anonymous. A self-administered structured questionnaire was validated through a pre-tested survey. The questionnaire in Part 2, parental knowledge about oral health care of 1-3 year kindergarten students, had a Kuder-Richardson value of 0.71. Part 3: Parents' attitudes towards oral health of preschool had Cronbach's Alpha Coefficient of 0.70 and Part 4. Parental behaviors of oral health care of Kindergarten students had Cronbach's Alpha coefficient 0.82. The questionnaire consisted of 4 parts as follows:

Part 1 incorporated 12 questions to gather information of parents and child info including gender, age, education level, occupation, monthly income, relationship with children, grade level of the children, tooth decay, type of milk for drinking, dental checkups, frequency to visit dental clinic, and general information about oral health.

Part 2 integrated 14 questions to assess the knowledge about oral health care among parents. There are 2 choices, yes or no. The score was 1 point for correct answer and 0 point for the wrong answer.

Part 3 comprised of 12 questions, which aimed to assess the attitude of parents toward oral health care. The answers were scored on a three point Likert scale as agree, unsure and disagree. There were 7 positive and 5 negative questions, with 3 points for agree, 2 points for unsure, and 1 point for disagree in positive questions. And for negative questions, there are 1 points for agree, 2 points for unsure and 3 points for disagree.

Part 4 made of 20 questions aimed to investigate the practices of parents regarding child oral health care. The responses were recorded on three point Likert scale as always, sometimes, and never. There were 15 positive and 5 negative questions, with 3 points for always, 2 points for sometimes, and 1 point for never in positive questions. And for negative questions, there is 1 point for always, 2 points for sometimes and 3 points for never.

Attitude and practices items were re-coded to ensure that, for all items, a high score indicated a positive attitude and practices toward oral health care, and a low score indicated a negative attitude and practices. The individual scores were then summed up to yield a total score. For the purpose of analysis, age of the participants was categorized as: <35 years and >=35 years. The income categories were grouped under 15,000 baht and above 15,000 baht. To translate the knowledge level, scores more than 80% were coded as good knowledge. Data analysis was constructed using frequencies, percentage, means, standard deviation, maximum, minimum and multivariable logistic regression.

Table 2 Characteristics of the parents participating in the study (n=151)

Variables	n	Percent
Gender		
Male	42	27.8
Female	109	72.2
Age		
< 35 years	64	42.4
≥ 35 years	87	57.6
$\overline{X}$ =37.09, S.D =9.436, Min=20, Max=64		
Education		
Lower than bachelor degree	71	47.0
Bachelor degree or higher	80	53.0
Occupation		
Self employed	68	45.0
Merchant/private business	40	26.5
Government/state enterprise	43	28.5
Income (Baht/month)		
<15,000	71	47.0
≥15,000	80	53.0
$\overline{X}$ =19,401.72, S.D =15,088.06, Min=3,000, Max=100,000		

Table 2 (cont.)

Variables	n	Percent
Relationship with children		
Father/Mother	123	81.5
Grandfather/Grandmother	14	9.3
Uncle/Aunt	14	9.3
Grade level of the children		
Level 1	43	28.5
Level 2	36	23.8
Level 3	72	47.7
Tooth decay		
None	66	43.7
Ever	85	56.3
Less than 5 teeth	76	89.4
More than 5 teeth	9	10.6
$\overline{X}$ =1.79, S.D =2.412, Min=0, Max=8		
Type of drinking milk (Answer more than one answer)		
Plain cow's milk	131	86.6
Powder cow's milk	12	7.9
Sweet cow's milk	28	18.5
Yoghurt milk	81	53.6
Soy milk	34	22.5
Chocolate milk	57	37.7
Others as Almond milk	2	1.4
Access to dental services		
Ever	121	80.1
Never	30	19.9
Frequency of dental visits		
Less than 3 times/year	115	95.0
More than 3 times/year	6	5.0
$\overline{X}$ =1.12, S.D =1.460, Min=0, Max=10		
Get information about oral health care		
Ever	121	80.1
Never	30	19.9
Information source (Answer more than one answer)		
TV/Radio	54	44.6
Newspaper/Book/Brochure	23	19.0
Journal/Magazine	12	9.9
Poster board	27	22.3
Sub-district Health Promotion Hospital/Health officer	64	52.9
Dentist	47	38.8
Internet	46	38.0

3. Results

We interviewed 151 parents of preschool children and report the following.

3.1 Personal information

Among those interviewed, the majority were female (72.2%), aged from 15 to 44 years (mean age 37.09 ± 9.4), had completed bachelor degree (43.0%), and were self-employed (43.0%). The mean income was 15,088 baht/month. Most of them were father and mother (81.5%) who take care of preschool level 3 (41.7%). Reporting on their child, most had tooth decay (56.3%) with tooth decay in less than 5 teeth (89.4%). The most common type of milk was plain cow milk (86.6%). Children had access dental services (58.9%), mostly less than 3 times/year (93.3%) . Parents had gotten information about oral health care (80.1%) via Sub-district Health Promotion Hospital and Health officer (52.9%) (Table 1).

3.2 Parents' knowledge toward preschool oral health

Fourteen questions were asked covering the parents' knowledge. A summary of the answers to each question is presented in Table 3.

Table 3 Responses of parents to knowledge questions (n=151)

Items	n (%)	
	Correct	Wrong
1. Regular teeth brushing should do at least two times a day (morning – evening)	150 (99.3)	1 (0.7)
2. To start cleaning a child's teeth must be done since the teeth are not up.	120 (79.5)	31 (20.5)
3. Drinking milk from a bottle will increase the risk of tooth decay.	119 (78.8)	32 (21.2)
4. The child sleeps with a milk bottle in the mouth, affecting the teeth.	141 (93.4)	10 (6.6)
5. Losing teeth prematurely will make a new tooth overlap.	106 (70.2)	45 (29.8)
6. Sweets do not cause tooth decay.	98 (64.9)	53 (35.1)
7. If the baby tooth is not decayed or prematurely removed, it will make a beautiful permanent teeth.	131 (86.8)	20 (13.2)
8. Adding sugar to milk and food to children increased risks for tooth decay.	137 (90.7)	14 (9.3)
9. Holding food in mouth for a long time will cause tooth decay.	126 (83.4)	25 (16.6)
10. Sticky food causes tooth decay.	133 (88.1)	18 (11.9)
11. Oral examination should be done at least once a week.	97 (64.2)	54 (35.8)
12. Eating fruits and vegetables on a daily basis will help prevent tooth decay.	131 (86.6)	20 (13.2)
13. The right way to brush teeth is to brush the teeth in the morning and evening at least 3 minutes/time.	135 (89.4)	16 (10.6)
14. Caries affect the eating of children.	131 (86.6)	20 (13.2)

Most parents had good knowledge of frequency for brushing (morning – evening) (99.3%) and the effect of having children sleep with a milk bottle in the mouth (93.4%). However, they had poor knowledge of weekly regular check (35.8%), and believed that sweets do not cause tooth decay (35.1%).

3.3 Parents' attitude toward preschool oral health

Table 4 Percentage distribution of responses regarding the attitude of child oral health care (n=151)

Items	Agree	Unsure	Disagree
*1. Brushing the teeth alone is enough to make good dental health.	60 (39.7)	34 (22.5)	57 (37.8)
*2. Tooth decay does not need treatment.	38 (25.2)	21 (13.9)	92 (60.9)
3. Parents should set as a good examples for children for caring for teeth.	144 (95.4)	7 (4.6)	-
4. Prevention of tooth decay in children should be start while pregnant.	84 (55.6)	44 (29.1)	23 (15.2)
5. We should take children for checkups regularly, even though they do not have decay.	138 (91.4)	12 (7.9)	1 (0.7)
*6. Dental check for children is only done by dentists.	59 (39.1)	29 (19.2)	63 (41.7)
7. Having good oral health is the beginning of good health.	140 (92.7)	9 (6.0)	2 (1.3)
8. Milk for preschool children should be plain milk.	137 (90.7)	10 (6.6)	4 (2.6)
9. Children's teeth should be brushed after every meal.	137 (90.7)	11 (7.3)	3 (2.0)
10. Eating of sweets after the teeth start can cause dental caries.	122 (80.8)	22 (14.6)	7 (4.6)
*11. Rinsing the mouth after eating is adequate for children.	31 (20.5)	37 (24.5)	83 (55.0)
*12. Baby teeth are not as important as permanent teeth. It will have a permanent replacement.	42 (27.8)	33 (21.9)	76 (50.3)

* Negative question

Table 4 shows parent's attitude toward oral health care. Most of the parents agreed to the statement that parents are good examples for children to care for teeth (95.4%) and having good oral health is the beginning of good health (92.7%). About 39.7% agreed to the fact that brushing teeth alone is enough to make good dental health and 39.1% of the parents agreed of dental check for children is only performed by dentists.

3.4 Parents' practices toward preschool oral health

Table 5 Percentage distribution of responses regarding the practices of child oral health care (n=151)

Items	Regular	Sometimes	Never
1. You check your child's teeth.	82 (54.3)	68 (45.0)	1 (0.7)
2. You train your children to drink milk from the glass.	81 (53.6)	57 (37.7)	13 (8.6)
3. You took the child to the treatment when seeing any black spot on the teeth.	46 (30.5)	61 (40.4)	44 (29.1)
4. You let the child rinse after eating.	59 (39.1)	74 (49.0)	18 (11.9)
5. You brush child's teeth twice a day (morning - before bedtime).	120 (79.5)	28 (18.5)	3 (2.0)
6. You stay with your child while they are brushing.	110 (72.8)	39 (25.8)	2 (1.3)
7. You use fluoride toothpaste to brush your child teeth.	131 (86.8)	16 (10.6)	4 (2.6)
8. You let them brush their teeth by themselves.	107 (70.9)	44 (29.1)	-
9. You brush their teeth again after the child has brushed their own teeth.	66 (43.7)	68 (45.0)	17 (11.3)
*10. You allow your child to eat candy.	32 (21.2)	99 (65.6)	20 (13.2)
*11. You let your kids drink soda / juice as desired.	28 (18.5)	99 (65.6)	24 (15.9)
*12. When your child toothaches, you buy medicine for your child to eat.	25 (16.6)	30 (19.9)	96 (63.6)
13. You give children a fruit as snack between meals.	54 (35.8)	92 (60.9)	5 (3.3)
14. You took your child to meet the dentist.	51 (33.8)	68 (45.0)	32 (21.2)
15. You change the toothbrush of your child, when it is spread, bloom or deteriorated.	138 (91.4)	11 (7.3)	2 (1.3)
*16. You give your child a crunchy snack.	44 (29.1)	98 (64.9)	9 (6.0)
*17. You let them drink sweetened milk.	30 (19.9)	90 (59.6)	31 (20.5)
18. You check your child's mouth after brushing.	74 (49.0)	75 (49.7)	2 (1.3)
19. You choose to buy plain milk instead of sweetened milk for your child to drink.	103 (68.2)	44 (29.1)	4 (2.6)
20. You teach children to brush every tooth and all sides of the teeth.	126 (83.4)	25 (16.6)	-

* Negative question

As regard to oral health practices in Table 5, 91.4% of the parents' regularly changed the toothbrush of their child, when it is spread, bloomed or deteriorated. About 86.8% of the parents used fluoride toothpaste to brush the child's teeth. Furthermore, 83.4% of the parents taught their children to brush every teeth and all sides of the teeth. About 29.1% of the parents always allowed their children to eat snacks, candy (21.2%) and sweet milk (19.9%).

Table 6 Level of knowledge attitudes and practices on oral health behavior (n=151)

Knowledge level	Score range	n	Percentage
High	(12-14 points)	91	60.3
Medium	(9-11 points)	48	31.8
Poor	(1-8 points)	12	7.9
$\overline{X}$ =11.62, S.D =1.87, Min=6, Max=14			
Attitude level			
High	(29-36 points)	107	70.9
Medium	(21-28 points)	43	28.5
Poor	(12-20 points)	1	0.6
$\overline{X}$ =30.64, S.D =3.20, Min=20, Max=36			
Practices level			
High	(28-40 points)	85	56.3
Medium	(14-27 points)	66	43.7
$\overline{X}$ =28.09, S.D =4.25, Min=17, Max=39			

Table 6 shows that parents had high level of knowledge about oral health care at 60.3% and poor knowledge was found among 12 parents (7.9%). As for parental attitudes, 70.9% of the parents exhibited excellent attitude towards oral

hygiene, but only 56.3% were following good practices of their children's dental hygiene.

3.5 Association between parents' knowledge, attitude, and practices for oral health care of preschool child

Table 7 Multivariable logistic regression predictors for oral health practice in parents of preschool child

Knowledge and Attitude	Practice		Adjusted OR*	95%CI
	Good	Not good		
Good knowledge and attitude	22 (71.0%)	9 (29.0%)	4.28	1.61-11.40
Good knowledge and low attitude	16 (44.4%)	20 (55.6%)	1.29	0.52-3.17
Low knowledge and good attitude	18 (52.9%)	16 (47.1%)	1.82	0.73-4.49
Low knowledge and low attitude	18 (36.0%)	32 (64.0%)	1.00	

* When controlled by sex and age.

The association between parental knowledge and attitude with practices in oral health care of preschool child was calculated using statistical Logistic Regression. Results showed that parents with good knowledge and attitude tend to behave well 4.28 times compared with those poor knowledge and attitude which was statistically significant (OR_{adj} = 4.28, 95% CI 1.61-11.4) when the influence of sex and age were controlled (Table 7).

Table 8 Factor related to oral health behaviors

Factors	Behaviors		Adjusted OR	95% CI for adjusted OR
	Good	Poor		
Gender				
Male	24 (57.1)	18 (42.9)	0.81	0.36-1.83
Female	50 (45.9)	59 (54.1)	1.00	
Age				
< 35 years	24 (37.5)	40 (62.5)	1.00	
≥ 35 years	50 (57.5)	37 (42.5)	2.11*	1.01-4.42
Education				
Lower than bachelor degree	32 (45.1)	39 (54.9)	1.00	
Bachelor degree or higher	42 (52.5)	38 (47.5)	1.80	0.93-3.49
Occupation				
Self employed	28 (41.2)	40 (58.8)	1.00	
Merchant/private business	17 (42.5)	23 (57.5)	0.99	0.42-2.32
Government/state enterprise	29 (67.4)	14 (32.6)	2.16	0.78-5.99
Income (Baht/month)				
<15,000	32 (45.1)	39 (54.9)	1.00	
≥15,000	42 (52.5)	38 (47.5)	1.32	0.69-2.55
Relationship with students				
Father/Mother	57 (46.3)	66 (53.7)	0.22	0.04-1.22
Grandfather/Grandmother	7 (50.0)	7 (50.0)	0.34	0.09-1.25
Uncle/Aunt	10 (49.0)	4 (51.0)	1.00	
Access to dental services				
Ever	64 (52.9)	57 (47.1)	3.98*	1.82-8.74
Never	10 (33.3)	20 (66.7)	1.00	
Get information about oral health care				
Ever	73 (60.3)	48 (39.7)	2.28*	1.01-5.16
Never	12 (40.0)	18 (60.0)	1.51	

*p<0.05

Parents who were older than 35 years tend to have a better behavior at 2.11 times than the others (OR_{adj}=2.11, 95%CI 1.01-4.42). Parents who took their child for oral health examinations were 3.98 times more likely to have good behavior (OR_{adj} = 3.98, 95% CI 1.82-8.74) than those who did not. Parents who got the information about oral health care were more likely to be good at 2.28 times (OR_{adj} = 2.28, 95% CI 1.01-5.16) compared to those who had never received information. This difference was statistically significant.

4. Discussion

This study provides information about parent's knowledge, attitude, and practice toward their children's oral health in Warinchamrap Municipality. In this study, adequate knowledge was found among 60.3% of the parents, 70.9% exhibited an excellent attitude, and only 56.3 % followed good practice toward their children's oral health. Good knowledge and attitudes of parents was significantly associated with parents' practices toward their children's oral health. These results were comparable to the results of the study conducted by Jitaram and Makboon (2004). which found that knowledge and attitudes towards oral health care for children aged 3-5 years was significantly correlated with parental behaviors in oral health care for children aged 3-5 years at the .05 level. Parents have the correct knowledge for their children to brush teeth at least 2 times (morning - evening) and also teaching to brush left-right (Preedee, 2008) The brush should be at a 45-degree angle and brush in a circular inside and outside and also brush on the chewing area of the teeth (Preedee, 2008). The front teeth should be brushed in up-down style. Oral hygiene is an important factor influencing the caries of children, a simple way to clean a child's teeth is to start brushing their teeth from when they are young. The frequency of brushing and the use of fluoride toothpaste all contribute to dental caries, because brushing frequently reduces tooth decay (Raktao and Wongwech (2015). It helps to prevent the formation of bacteria and also slow down the onset of dental caries. Parents in this study know that having a baby sleep with a bottle and adding sugar to the milk and food has a negative effect on the child's teeth. These two actions are important factors causing tooth decay in preschool children. This is consistent with the study of Piwsawang, et al. which found that children who eat sweets that contained a lot of sugar had tooth decay Piwsawang. The study of Wongkarnkheep, et al. (2017) also found that children aged 0-5 years who consumed more than 32 grams of sugar per day had a higher risk of caries and obesity Wongkongkathep, et la. (2007). Improper conduct of the caregiver or parents is the main reason for tooth decay in the children.

According to this study, parents have a positive attitudes toward their child's oral hygiene and give a good example for children to care for their teeth. They agree that good oral health is the beginning of good health and taking children to have their teeth checked regularly, even if the child does not have decayed teeth is good practice. Preschool children, (meaning children under the age of 6) are still not fully developed around the mouth and teeth, as well as their muscles, so they need help from their parents. Parents should take care of their child's dental health by taking their child for dental care when the child has dental caries so that the child does not suffer pain and early loss of teeth. Parents should also be a good example for children because the child imitates the idea and practice of adults. However, parents also have attitudes which need to be improved. For example, they believed that brushing alone is enough for good dental health and only a dentist can do a dental check. Many parents do not see the importance of brushing which make many children become accustomed to unclean oral conditions and they are more likely to become infected with tooth decay or bad breath. Parents often let their children brush their own teeth because there is no time and they think that children can brush their own teeth properly and thus neglect the oral health of their child. Actually, a rough oral check can be done by parents after brushing and parents should brush their teeth again to ensure that they are clean enough.

The most appropriate child's oral hygiene is to change the toothbrush when the brush is spread, frayed or deteriorated. If the bristles are scattered, it will not be effective in brushing anymore and also harm the gums and soft tissues in the mouth. Parents should also use fluoride toothpaste to brush their child's teeth and teach them to brush all the teeth and all sides of the teeth regularly. This is consistent with a study by Preedee (2008) which found that most parents chose fluoride toothpaste to prevent tooth decay and use amounts the size of green beans. They teach children to brush their teeth by brushing left-right. Inappropriate behaviors found in this study were parents giving children crunchy or sweet candy and sweetened milk, regularly. This in line with the study on eating behavior of sweet foods and caries of children under 5 years which found that there 14.1% of caregivers let their children eat sweet food on a regular basis. This behavior is correlated with the severity of dental caries Peltzer (2004), Peltzer and Mongkolchati (2015).

There are also other factors related to parental behavior in oral health care. Parents older than 35 year generally had good practices for their children's oral health. The more mature, the more responsible. Those who had taken their child to the dental clinic and those who had gotten dental health information had better practices than those who never went or accessed the information. The main source of knowledge for parents in this study was found to be from health professionals. These results were comparable to the results of the study conducted by Mahawan, (2006). Parents who take their child to the dental clinic usually receive some oral health information from a health officer. Therefore, it is imperative to establish proper knowledge and instill accurate information when they have a dental visit. However, in this study, media such as internet and television are also a great way to communicate with the parents too. Receiving news from the media affects the dental care behavior of preschool children, which results in better dental care.

5. Conclusion

Health professionals, who are the first to come into contact with parents need to disseminate appropriate and accurate information about oral health care, especially about regular dental checks

once a week, the fact that sweets make children get caries and should also raise awareness for parents that if children losing their teeth prematurely, it can cause problems such as causing the new tooth to overlap. In term of attitude, parents should understand that brushing alone is not enough, the dental checks can be done by parents, and baby teeth are as important as the permanent teeth. Parents should be careful about giving children too much sweet food and take the child to dental clinic when black spots are found on teeth. Health agencies should focus on creating behaviors that encourage parents to care for their child's oral health and distribute knowledge through media such as documents, images, videos, posters that refer to foods that are harmful to children's dental health and increase communication through various channels. A matter of high priority is the development and implementation of wide-scale, long-term programs of health education, in order t**o** reduce the parental behaviors that lead to the development of children's oral health problems.

Acknowledgement

The authors would like to thank all the parents for their participation and kind cooperation during the study. And thanks to the director of the school for allowing us to collect the data.

References

Bureau of Dental Health, Department of Health, Ministry of Public Health. (2013). **Report of the 7th national oral health survey in Thailand from year 2008-2012**. Nonthaburi: Ministry of Public Health.

Bureau of Dental Health, Department of Health. (2007). **Situation of oral health 2007**. [Cited 2018 July 20]. Available from: http://dental2.anamai.moph.go.th/ewt_dl_link.php?nid=1855

Jitaram, P., Makboon, K. (2014). Dental care behavior of the caregivers of children aged 3-5 years. **Thai Dental Nurse Journal.** 25(1): 26-41.

Koopatishart, W. (2013). Tooth decay and factors related to tooth decay of Thai children in lowland hell tribe children in Samoeng District, Chiangmai Province. **Lanna Public Health Journal**. 9(2): 137-150.

Mahawan, T. (2006). **Dental health care behavior of parents of 2-3 year old children at Saraphi District, Chiang Mai Province.** Master Education (Health Promotion). Chiang Mai University.

Ouijirakul, L., Chatrchaiwiwatana, S., Uengchusak, C. and Siritapetawee, M. (2013). Association between child care behaviors and early childhood caries in Sakaew Province. **Thai Dental Public Health Journal**. 18(2): 23-32.

Peltzer, K. and Mongkolchati, A. (2015). Severe early childhood caries and social determinants in three-year-old children from Northern Thailand: a birth cohort study. **BMC Oral Health.** 15, 108 doi: 10.1186/s12903-015-0093-8

Peltzer, K., Mongkolchati, A., Satchaiyan, G., Rajchagool, S. and Pimpak, T. (2014). Socio behavioral factors associated with caries increment: a longitudinal study from 24 to 36 months old children in Thailand. Int **J Environ Res Public Health.** 17;11(10),10838-50.

Piwsawang, S., Ampai, P., Kumthong, C., Pradidsilapachot, V., and Srimakutphun, N. (2017). The dietary habits that affect the oral health of preschool children at Ban Tanab Child Development Center, Tambon Thung Kula, Tha Tum District, Surin province. **Research and Development Journal Suan Sunandha Rajabhat University**. 9(3): 20-30.

Preedee, W. (2008.) **Dental health care behavior of parents of 2-3 year old children at Wat Koktong child care center, Kut wa sub-district, Kuchinarai district, Kalasin Province**. Master of Public Health Khonkaen University.

Raktao, U. and Wongwech, C. (2015). Knowledge, attitude and practice of parents/guardians regarding oral health care of preschool children. **The Southern College Network Journal of Nursing and Public Health**. 2(1): 52-64.

Sopa, T., Na Chiangmai, N. and Chawapong, W. (2013). Factors related to the caries status in preschool children in the child development center Chiang Dao District, Chiangmai Province. **Pikanasan.** 9(2): 81-95.

Wongkongkathep, S., Prasertsom, P., Rattarungsima, K., Rityoo, A. (2007). Sweet food consumption behavior of Thai children under 5 years and relationship to caries and obesity problems. **Journal of Dental Association of Thailand.** 57(1): 1-12.