

Awareness of care and importance of primary teeth among mothers in Yasuj 2017

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Abstract

Introduction: Healthy primary teeth are necessary for a child's physical and mental health. Increasing mothers' awareness of the importance of these teeth is significant for the creation of healthy teeth in their children's mouths. Thus, the aim of this study was to evaluate mothers' awareness of the importance and care of their children's primary teeth in Yasuj

Material & Methods: In this cross-sectional study, 384 mothers with their children aged ≤ 6 years were enrolled. The data were collected via a 12-item researcher-made questionnaire and analyzed using mean, standard deviation, Spearman and binary logistic regression tests.

Results: The mean age of mothers was 29.71 ± 5.04 years. The mean score of mothers' awareness of the importance of primary teeth was 5.9 ± 2.76 (score of 0-12). No mothers had good awareness, 119 (31%) and 265 (69%) mothers had moderate and poor awareness in this regard, respectively. A significant relationship was found between mothers' age and awareness ($p=0.0001$, $r=0.18$) as well as between parental education level and awareness ($p=0.0001$, $r=0.25$). Parental education levels including subdiploma $P=0.009$, EXP (B)=15.19, 0.95% CI= 1.97-116.91; diploma and technician $P=0.0001$, EXP (B)=39.42, 0.95% CI= 5.03-308.81; Bachelor's degree $P=0.001$, EXP (B)=27.02, 0.95% CI= 3.55-205.73; Master's degree and higher $P=0.003$, EXP (B)=26.26, 0.95% CI= 2.95-233.26 as well as maternal age $P=0.008$, EXP (B)=1.07, 0.95% CI= 1.02-1.14 were predicting factors for mothers' awareness of the importance and care of the primary teeth.

Conclusion: Considering the undesirable level of mothers' awareness of the importance and health, the interventions and planning are essential to enhance mothers' awareness in this regard.

Keywords: Mothers, Primary teeth, Oral health, Awareness

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آگاهی از مراقبت و اهمیت دندانهای شیری در بین مادران، در شهر یاسوج، سال ۹۶

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چکیده

مقدمه: دندانهای شیری سالم برای سلامت جسمی و ذهنی کودکان ضروری است. افزایش میزان آگاهی مادران در زمینه اهمیت دندانهای شیری برای ایجاد دندانهای سالم در دهان کودکانشان مهم میباشد. بنابراین هدف از این مطالعه ارزیابی آگاهی مادران از اهمیت دندانهای شیری و مراقبت از این دندان ها در شهر یاسوج می باشد.

مواد و روش ها: در این مطالعه مقطعی ۳۸۴ مادر که دارای کودک ۶ و زیر ۶ سال بودند شرکت داشتند. اطلاعات آنها در ارتباط با دندانهای شیری با استفاده از پرسشنامه ای که شامل ۱۲ سؤال بود جمع آوری شد. در SPSS نسخه ۲۱ وارد و با استفاده از میانگین و انحراف معیار و با تستهای آماری اسپیرمن و رگرسیون لجستیک باینری مورد تجزیه و تحلیل قرار گرفت.

یافته ها: میانگین سن مادران 29.71 ± 5.04 بود، میانگین آگاهی از اهمیت دندان شیری (نمره از ۱۲-۰) 5.9 ± 2.76 بود. هیچکدام از مادران آگاهی خوبی در این زمینه نداشتند و ۱۱۹ مادر (۳۱٪) آگاهی متوسط و ۲۶۵ (۶۹٪) آگاهی ضعیفی داشتند. ارتباط قابل توجهی بین سن مادر و آگاهی آنها ($p=0.0001, r=0.18$) و همچنین بین سطح تحصیلات والدین و آگاهی ($p=0.0001, r=0.25$) آنها وجود داشت. با استفاده از تست آماری رگرسیون لجستیک باینری، سطح تحصیلات والدین زیر دیپلم ؛ $P=0.0001, EXP(B)=15.19, 0.95\% CI= 1.97-116.91$ ؛ دیپلم ؛ $P=0.001, EXP(B)=27.02, 0.95\% CI= 3.55-308.81$ ؛ فوق لیسانس و بالاتر $P=0.003, EXP(B)=26.26, 0.95\% CI= 2.95-233.26$ ؛ و همچنین سن مادر $P=0.008, EXP(B)=1.07, 0.95\% CI= 1.02-1.14$ فاکتورهای پیش بینی کننده برای آگاهی از اهمیت دندانهای شیری و مراقب از این دندانها می باشد.

نتیجه گیری: با توجه به نامطلوب بودن سطح آگاهی مادران در مورد اهمیت دندانهای شیری و مراقبت بهداشتی، انجام مداخلات و برنامه ریزی جهت افزایش سطح آگاهی مادران در این خصوص ضروری به نظر می رسد.

واژگان کلیدی: مادران، دندانهای شیری، بهداشت دهان، آگاهی

Introduction

Oral health is an integral part of public health. A lot of children do not have enough oral and general health regarding their active and controlled dental caries. Healthy primary teeth are the valuable assets of a child and play an important role in eating, space maintenance for permanent teeth, phonetic articulation, esthetic and self-esteem.^[1,2] Sociologist stated that the social conditions might affect health status.

Epidemiologists found how social support networks, especially the family could impact on wellbeing and health of communities.^[3] Another available study illustrates that certainly, mothers are the early and original patterns for their children to have a good oral health. Parents should be aware of their responsibilities to achieve this program through acquiring the available guidance and information.^[4]

Although the dental care considerably contributes to healthy mouths in millions of children, a large number of children suffer from serious problems receiving the care they require. The main factor which limits the use of dental services is the low oral health literacy and lack of a perceived need for care. [4] Therefore, an effective strategy for improving the children's dental health must be developed according to an exact understanding of this unique need. To do so, evaluating mothers' knowledge and practice of their children's dental health care can be the first measure to identify the areas of weakness and to improve their behaviors. [5]

Usofi et al. in Yasuj suggested that over 75% of 7-12-year-old children had carious deciduous teeth, while only few of them received dental treatments. These results indicate that this community needs to improve the dental care. [6] So far, no documented research has been conducted on the parental awareness of the importance and care of their children's primary teeth in Yasuj.

Hence, the current study was performed to evaluate mothers' awareness of the importance and oral health of their children's primary teeth in Yasuj City in Iran.

Materials & Methods

This study was approved by the Ethics Committee of Yasuj University of Medical Sciences (93.12.25.06). Totally, 384 mothers with their children aged ≤ 6 years were enrolled. After receiving a letter from the Provincial Health Center, 4 health centers were visited in Yasuj city in the province of Kohgiluyeh and Boir-Ahmad in the southwest of Iran the lists of the children ≤ 6 years were extracted from the records by a family health expert. Finally, based on the table of random number, 96 samples were selected from each center using a simple random sampling method.

The children's mothers were contacted with phone and asked to visit the centers. The inclusion criteria were: a) having reading and writing literacy for mothers and b) were ≤ 6 years for children. The data were collected using a 12-item researcher-made questionnaire to evaluate mothers' awareness of the importance and care of their children's primary teeth. Questions were extracted from the content of pediatric dentistry textbooks.

The questionnaire is represented in table 1. The face and content validity of the questionnaire were

confirmed by pediatric dentists and experts based on the questionnaire design. Its reliability was corroborated with a Cronbach's alpha of 0.73 and Guttman split-half coefficient of 0.7.

To answer the items, the 3 choices of "true", "not true", and "I don't know" were considered. One point was given to each correct answer and zero was given to each wrong answer. The choice of "I don't know" was scored as zero.

The total scores of 0-4, 5-8, and 9-12 were regarded as poor, moderate and good awareness, respectively. A sample size of 384 was calculated through proportion formula: $(p=0.2$ (prevalence of high knowledge) $^{[7]}$ $d=0.2p$ and $\alpha=0.05$).

Totally, descriptive statistics (mean, standard deviation and frequency), and analytical statistics (Spearman correlation coefficient and binary logistic regression) were used for the data analysis. By SPSS V.21, $P\text{-value} \leq 0.05$ was considered significant level.

Table 1. Questionnaire items on mothers' awareness of the importance and health care of their children's primary teeth

Q1: As long as the child's teeth are not hurting, there is no need for a dental examination.
Q2: Dental examination is not needed for children aged younger than 1 year.
Q3: Primary teeth do not have roots and cannot undergo root canal therapy.
Q4: Since deciduous teeth are temporary, they should be extracted in the case of caries.
Q5: Since deciduous teeth are temporary, they have to be extracted in the case of pain.
Q6: When teething, parents should begin brushing their children's teeth.
Q7: Healthy deciduous teeth affect a child's health.
Q8: The best thing you can do for a child, who has carious teeth but does not cooperate with the dentist for dental restoration, is to extract his/her teeth.
Q9: Extraction of the decayed primary teeth makes the permanent teeth healthier in the future.
Q10: Extraction of the decayed deciduous teeth provides a child even with more teeth in the future, thus reducing a need for orthodontic treatment.
Q11: Cleaning a baby's gums is necessary even when he/she is toothless.
Q12: Flossing of the deciduous teeth is necessary

Results

In the present study, 384 mothers with their children ≤6 years old were enrolled. The demographic characteristics of the children and their mothers are shown in table 2.

Table 2. Children and their mothers' demographic characteristics

variables	
Children' ages (mean±SD)	2.45±1.46
Sex:	
- Girl	185(48.2%)
- Boy	199(51.8%)
Mothers' ages (mean±SD)	29.71±5.04
Mothers' education levels:	
- Illiterate	58(15.1%)
- Sub-diploma level	127(33.1%)
- Diploma & technician level	61(15.9%)
- Bachelor's level	115(29.9%)
- Master's level	23(6%)

Minimum and maximum ages of mothers and children were 17-47 and 1-6 years, respectively. Median age of mothers was 30 years (with no normal distribution; $p=0.0001$).

None of the mothers had good awareness about the importance and oral health care of their children's primary teeth. 69% and 31% of the mothers had poor and moderate awareness about the importance and oral health care of their children's primary teeth.

The mean score of mothers' awareness of the importance and oral health care of their children's primary teeth was 5.9 ± 2.76 . The frequency distributions of the correct and incorrect answers to the items are illustrated in figure 1.

A statistically significant relationship was found between mothers' ages and awareness of the importance and health care of their children's primary teeth ($p=0.0001$, $r=0.18$).

Also, there was a statistically significant relationship between mothers' education levels and awareness of the importance and health care of their children's primary teeth based on the Spearman test ($p=0.0001$, $r=0.25$). The results of the logistic regression analyses (Table 3) demonstrated that among the variables including mother's education level, mothers' age and children's gender, the maternal education and age were the predicting factors for mothers' awareness of the importance and care of their children's primary teeth. Meanwhile, mothers' awareness enhanced with increased maternal age and education.

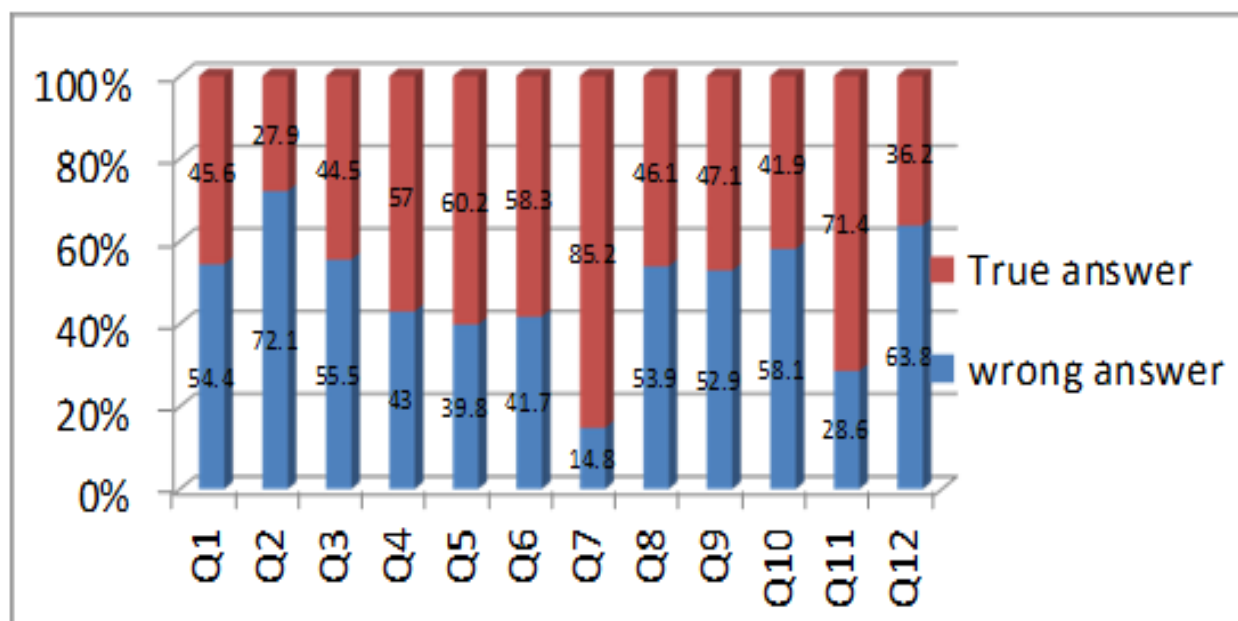


Figure 1. Frequency of mother's awareness of the importance and care of their children's primary teeth

Table 3. Predicting factors of mothers' awareness of the importance and care of their children's primary teeth

		Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1a	Children age	.119	.086	1.917	1	.166	1.127	.952	1.334
	Sex	.195	.260	.567	1	.451	1.216	.731	2.022
	Maternal age	.076	.029	7.050	1	.008	1.079	1.020	1.141
	Maternal education			17.455	4	.002			
	Sub-diploma	2.721	1.041	6.830	1	.009	15.193	1.974	116.912
	Diploma & technician	3.674	1.050	12.243	1	.000	39.427	5.034	308.812
	Bachelor's degree	3.297	1.036	10.132	1	.001	27.023	3.550	205.735
	Master's degree & more	3.268	1.114	8.603	1	.003	26.264	2.957	233.268
	Constant	-6.831	1.361	25.193	1	.000	.001		

Discussion

More than two-thirds of the mothers participating in this study had low awareness of the importance and oral health care of their children's primary teeth. The mean score of mothers' awareness of the importance and oral health care of their children's primary teeth was 5.9±2.76 (scores of 0-12). No mothers had good awareness, 31 and 69% mothers had moderate and poor awareness in this regard, respectively.

In the current study, there was a significant relationship between the maternal education and age and the importance and care of their children's primary teeth, which is similar to that of previous studies.^[8-10]

Based on the results of the present study, mothers' awareness of the importance and oral health care of their children's primary teeth was inadequate. In contrast, Saied-Moallemi et al. in Tehran (Iran) showed that the oral health knowledge score was generally high among mothers. This difference may be due to the various levels of training and awareness in different cities of Iran. Therefore, more efforts should be made to systematically provide health educational programs in small cities of Iran.^[11]

In general, parents and guardians, especially mothers spend many times with their children <5 years even when they are in preschools or nurseries. In addition, maternal factors are very important because children cannot care for themselves so that they are dependent on their mothers for the daily care. In fact, this is an important time for children when they are most receptive to preventive health recommendations, especially when the child is the first for an expectant couple.^[4] The best time for children' dental examination is at the age of less than 12 months or at

least 6 months after the first primary tooth eruption.^[1-12] In the present study, 72.1% of the mothers disagreed with any examinations before one year old and 54.4% of them believed that dental examination was not necessary unless the baby's teeth hurt. In another study, half of the participants have stated that the children <3 years should be examined by a dentist, whereas 78% have expressed that the children <1 year do not require any dental examinations.^[13]

The results of Hiba et al. indicated that only about 31.8% of the studied mothers had the knowledge of the ideal time for the first dental visit.^[8] The result of the participants' awareness of the necessity of their children's dental examination before the age of 1 year in the current study was accordance to that of the previous studies.

Prenatal time is the best time to begin establishing a child's dental preventive program and counseling parents. Training on the oral health care and importance of primary teeth and their improvement can be implemented through health centers, school dental services, prenatal clinics or any other ways since they play an active and clear role in making healthful choices.^[1] Cleaning the gum pad before teething, and brushing the teeth after eruption are recommended at least once a day.^[1-4] Mothers' knowledge of cleaning their preschool children's teeth before teething, and brushing them after teething is predicted to be 71.4% and 58.3%, respectively.

Parents have to start flossing procedures in the case of closed inter-proximal contacts. In the primary dentition, the posterior contacts may be the only areas where flossing is needed if the inter-proximal areas are involved in a tooth-to-tooth contact. However, the

American Dental Association suggests that individuals floss at least once a day to improve the oral and dental condition.^[1-4] In the present research, only 36.2% of the mothers believed that flossing was necessary for deciduous teeth. Flossing is an important oral hygiene maintenance. In Narayanan's study conducted in China, only 19% of the parents were aware of the importance of flossing.^[10] Early loss of primary teeth might lead to mal-alignment of permanent teeth and enhanced risk of malocclusion in later.^[14] In addition to the loss of space, early decay of a primary tooth causes a child's pain, abscess, bad breath, reduced chewing and speaking abilities, and consequently, isolation resulted from his/her loss of self-confidence.^[2]

In the present study, the participated mothers' awareness of the importance of deciduous teeth was measured. In terms of the awareness of the treatment of primary teeth, 72.1% of mothers have stated that deciduous teeth have no roots and do not require root canal treatment, whereas 55.5% of them have explained that deciduous teeth are temporary and should be extracted when they hurt. On the other hand, 53.9% of mothers believed that the extraction of decayed deciduous teeth would provide healthier teeth in the future for a child, while 58.1% of them maintained that the milk teeth extraction would provide even more teeth for a child and thus reduce the need for orthodontic treatment in the future. Finally, 43% of mothers have believed that the carious deciduous teeth should be extracted since they are temporary.

Szatko et al. suggested that two-thirds of the parents believed that the treatment of deciduous teeth was unnecessary^[15] as well as in another similar study, 62% of the parents deemed that the restoration of decayed deciduous teeth was unnecessary.^[8] These findings are consistent with those of the current study. In contrast, in a study carried out in England, 74% of mothers have declared that the decayed deciduous teeth are very important, only 47% of them have believed that the decayed deciduous teeth should be restored as well as 15% and 28% of mothers have claimed that the decayed deciduous teeth should be ignored and extracted, respectively.^[16] In India, 82% of the parents have explained the unimportance of primary teeth since they are temporary, will fall and are replaced by a new set of teeth. In some cultures, primary teeth have been reported to be less valuable; thus, their caries and early loss are accepted events.^[17,18] Lack of knowledge on oral health issues has been reported as one of the most

significant barriers to providing oral health-related services by medical professionals.^[19] It is important for child health professionals to be knowledgeable of oral health educations of parent/caregivers. Moreover, these professionals should be aware of the transmissible and infectious natures of bacteria, which result in methods of oral health risk assessment, early childhood caries and their risk factors, proper decisions concerning timely, appropriate referrals and effective interventions as well as anticipatory guidance. Meanwhile, numerous useful training programs regarding oral health in this age group should be developed, published or broadcasted in the media. Furthermore, it is recommended to train parents how to deal with this issue through the school-based training programs.

Based on the results of the current study, mothers' awareness of the importance and health care of their children's primary teeth in Yasuj was inadequate. Therefore, it is critical for mothers to raise the awareness as a prerequisite for changing their care behaviors regarding their children's teeth and providing for them good oral health as an integral component of their general good health throughout their lives. Since the population living in Yasuj is contributed to a small portion of the Iranian population, similar studies should be conducted on larger sample size in Iran. Since the population living in Yasuj is contributed to a small portion of the Iranian population, similar studies should be conducted on larger sample size in Iran.

Conclusion

Based on the results of the present study, mothers' awareness of the importance and health care of their children's primary teeth in Yasuj was inadequate. Hence, it is critical for mothers to raise the awareness as a prerequisite for changing their care behaviors regarding their children's teeth and providing for them good oral health as an integral component of their general good health throughout their lives.

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Conflict of interest: We declare no conflict of interest.

Authors' Contributions

The study was designed by Zahra Hashemi and Leila Manzouri. Maysam Farzadmoghadam and Zahra

Hashemi defined the conceptual content of the research. The study data were collected by Fateme Rahimi, Seyed Ali Saleh Gholami and Zahra Hashemi. Statistical analysis and interpretation of data were accomplished by Leila Manzouri and Fateme Rahimi. Preparation of manuscript, its editing and revision were done by Maysam Farzadmoghadam, Leila Manzouri and Zahra Hashemi. Study supervision was performed by Zahra Hashemi.

References

1. Dean JA, Jones JE, Vinson LA, editors. McDonald and Avery's dentistry for the child and adolescent. 10th ed. St. Louis, Missouri: Elsevier; [2016].p.155-435.
2. Ramazani N, Poureslami HR, Ahmadi R, Ramazani M. Early childhood caries and the role of pediatricians in its prevention. *Iranian J Pediatr Soc* 2010; 2: 47-52.
3. Berkman LF. The role of social relations in health promotion. *Psychosom Med* 1995;57:245-54.
4. Pinkham JR, Casamassimo PS, Field WH, Mctigue DJ, Novak AJ. Pediatric dentistry: infancy through adolescence..5th d. St. Louis, Mo : Elsevier/Saunders; 2013.p. 203.
5. Ashkanani F, Al-Sane M. Knowledge attitudes and practices of caregivers in relation to oral health of preschool children. *Med Princ Pract* 2013; 22:167-72.
6. Usofi MA, Behroozpour K, Kazemi SA, Afroughi S. Evaluation of Dental Caries Status in 7-12 Years Old Students in Bovair Ahmad Township, Iran, 2014. *J Isfahan Dent Sch* 2017; 13: 75-83. [In Persian]
7. Salem K, Eskandari S. Treatment of early childhood caries. In: Scientific Committee of the Congress and the jury. Proceedings of the 6th congress of Iranian Association of Pediatric Dentistry; 2007 Jun 12-15; Iran. Tehran: Aghhigh; 2007.p.38. [In Persian]
8. Hiba S, Abduljalil HS, Abuaffan AH. Knowledge and practice of mothers in relation to dental health of pre-school children. *Adv Genet Eng* 2016; 5: 153.
9. Akpabio A, Klausner CP, Inglehart MR. Mothers'/guardians' knowledge about promoting children's oral health. *J Dent Hyg* 2008;82:12.
10. Narayanan N. Knowledge and Awareness regarding primary teeth and their importance among parents in chennai city. *J Pharm Sci Res* 2017; 9: 212-4.
11. Saied-Moallemi Z, Virtanen JI, Ghofranipour F, Murtooma H. Influence of mothers' oral health knowledge and attitudes on their children's dental health. *Eur Arch Paediatr Dent* 2008;9:79-83.
12. Seow WK. Biological mechanisms of early childhood caries. *Community Dent Oral Epidemiol* 1998;26 (Suppl 1):8-27.
13. Mani SA, John J, Ping WY, Ismail NM. Early childhood caries: parent's knowledge, attitude and practice towards its prevention in Malaysia. *J Indian Soc Pedod Prev Dent J* 2010; 28 :78-83.
14. Kagihara LE, Niederhauser VP, Stark M. Assessment, management, and prevention of early childhood caries. *J Am Acad Nurse Pract* 2009;21:1-10.
15. Szatko F, Wierzbicka M, Dybizbanska E, Struzycka I, Iwanicka-Frankowska E. Oral health of polish three-year-olds and mothers' oral health-related knowledge. *Community Dent Health* 2004;21:175-80.
16. Blinkhorn AS, Wainwright-Stringer YM, Holloway PJ. Dental health knowledge and attitudes of regularly attending mothers of high-risk, pre-school children. *Int Dent J* 2001;51:435-8.
17. Nagaveni, N B, Radhika N B, Umashankar K V. Knowledge, attitude and practices of parents regarding primary teeth care of their children in davangere city, india. *Pesq Bras Odontoped Clin Integr* 2011;11:129-32.
18. Ng MW. Multicultural influences on child-rearing practices: implications for today's pediatric dentist. *Pediatr Dent* 2003;25:19-22.
19. Vittoba Setty J, Srinivasan I. Knowledge and awareness of primary teeth and their importance among parents in bengaluru city, india. *Int J Clin Pediatr Dent* 2016 ;9:56.