

Age and Reason of First Dental Visit among 0-14 years Old Children visiting Tertiary Care Center in Koshi Province

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ABSTRACT

Introduction: The first dental visit should occur within 1 year of child's age. Majority of parents bring their children for first dental visit only when there is a dental problem.

Objective: This study was conducted to determine age and reason of first dental visit and to assess parents' knowledge and attitude towards the first dental visit of the child.

Methods: A cross sectional questionnaire-based study was conducted among 425 parents of children aged 0-14 years visiting the dental outpatient department. Each parent was interviewed by a single examiner. Descriptive statistics and Chi square test were used to report the data. The level of significance was set at $p < 0.05$.

Results: The mean age of the children at their first dental visit was 7.75 ± 3.01 years, majority of them (37.4%) being at 7 to 9 years of age. Only few children (0.9%) reported for their first dental visit within 1 year of their age. Most common reasons of first dental visit were dental caries (43.1%) followed by pain (19.5%). Very few parents (18.6%) had knowledge on ideal age of the first dental visit. A statistically significant association was found between age and reason of the first dental visit ($p < 0.01$).

Conclusion: The findings of this study concluded that majority of the parents sought first dental visit of their children at older age especially when they had pain and dental caries. It reflects a need to improve parents' knowledge on ideal age of the first dental visit for their children.

Keywords: Age; attitude; children; knowledge.

INTRODUCTION

The first dental visit is an important milestone in child's life. It helps in evaluating dental and craniofacial development of child, provide anticipatory guidance to parents, and early prevention of oral diseases.^{1,2} American Academy of Pediatric Dentistry (AAPD) in collaboration with American Dental association (ADA) recommends

child's first dental visit should be within 6 months of eruption of first primary tooth and no later than child's first birthday.³ An early establishment of dental home is encouraged when the child is no later than 12 months of age.^{4,5}

Untreated dental caries and early childhood caries peaks especially at 1-5 years of age.^{6,7} However, first dental visits occurs most commonly at older age groups ranging from 6-12 years.⁸⁻¹² Several factors influence first dental visit like family income, education, parent's knowledge and attitude towards early dental visits.^{8,13} Moreover, studies have found limited knowledge among parents on ideal age of first dental visit.^{8,14-15}

Very few studies have been found assessing child's age and reason of first dental visit in our country. Hence, present study was aimed to determine the age and reason of first dental visit of children aged 0-14 years along with

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parents knowledge and attitude towards first dental visit in Koshi Province.

METHODS

This was a questionnaire based cross sectional study carried out among all parents/guardians of children aged 0-14 years with first dental visit in tertiary care center in eastern Nepal. Ethical clearance was obtained from Institutional Review Committee (IRC), BPKIHS, Dharan (Ref. No:653/079/080-IRC). Study was conducted from 8th June 2023 to 31st July 2023. Purposive sampling was used in this study. Sample size was calculated using most common age for the first dental visit in the study done by Ghimire et al.¹² Considering 95% CI, a prevalence of 52.7% and permissible error of 5%, the final sample size obtained was 425 using the formula $n = Z_{\alpha}^2 pq/L^2$.

Those parents who did not give consent to participate were excluded. Prior to data collection written informed consent was obtained from each of the participant. A pretested, closed ended questionnaire adapted from previous studies^{8,15,16} was used to collect the data. All parents/guardians were interviewed by a single investigator in the waiting area of Department of Pedodontics and Preventive Dentistry. There was total sixteen questions which were divided into three parts. First part consisted of four questions (Q1-Q4) related to age and reason of first dental visit. Second part comprised of seven questions (Q5-Q11) related to parent's knowledge on first dental visit and third part had five questions (Q12-Q16) related to parent's attitude on first dental visit. The Cronbach's alpha obtained for the questionnaire was 0.89 indicating good internal consistency.¹⁸

Collected data was then entered in Microsoft Excel Sheet version 2016 and analyzed using the Statistical Package for Social Sciences (SPSS version 20). The reasons of the first dental visit were divided into two categories: Pain/Dental caries and Others (Routine check-up, retained deciduous teeth, fluoride application, referred by medical personnel, trauma, cleft lip, abscess, swelling and malocclusion). Age was categorized into three groups: 0-3 years, 4-6 years and 7-14 years based on the previous study.¹ Descriptive statistics was computed using frequency, percentage, mean and standard deviation. Chi square test was used to assess association between categorical variables. The level of significance was set at $p < 0.05$.

RESULTS

A total of 425 children from 0-14 years who visited dentist for the first time in Department of Pedodontics and Preventive Dentistry were enrolled in the study. Among them (52.7%) were male and (47.3%) were female. The mean age of the children at their first dental visit was 7.75 ± 3.01 years. Majority of the children (37.4%) who visited the dentist for the first time were in the age-group of 7 to 9 years. Only few children (0.9%) reported their first dental visit within first year of their age (Figure 1).

Majority of the children came with their parents (83.2%) followed by their grandparents (10.3%) whereas very few of them visited with their guardian (1.4%) (Figure 2).

The most common reasons of first dental visit were dental caries (43.1%) and dental pain (19.5%). However, few of them (18.6%) visited dental OPD due to some other reasons like cleft lip, abscess, swelling and malocclusion. Only four children (0.9%) visited for routine dental check-up and one child visited for preventive measure that is fluoride application (0.2%) (Figure 3).

More number of male children presented with dental caries followed by other reasons; 38.8% and 20.6% respectively whereas more female children presented with dental caries followed by pain; 47.8% and 19.4%, respectively. Reasons like trauma and referral from medical personnel was seen to be higher in male whereas complaint of retained deciduous teeth was higher in females (Figure 4).

The most common reason of the first dental visit within first year of age was trauma (50%) followed by routine check-up and other reasons. Dental caries was the most common reason of the first dental visit in all other age-groups. Only a 7-year-old child visited for fluoride application (Table 1).

More than two-third of the parents (71.5%) knew that two sets of teeth are present in our mouth. A high proportion of parents (75.1%) knew that milk teeth have to be preserved till they fall on their own. However, majority of them (81.4%) did not know that 6 months is the right time for the first dental visit. About two-third of the parents (65.2%) knew that tooth decay can be prevented and 11.3% knew that fluoride can prevent the tooth decay. Most of the parents (65.4%) were aware that early removal of teeth can cause malocclusion.

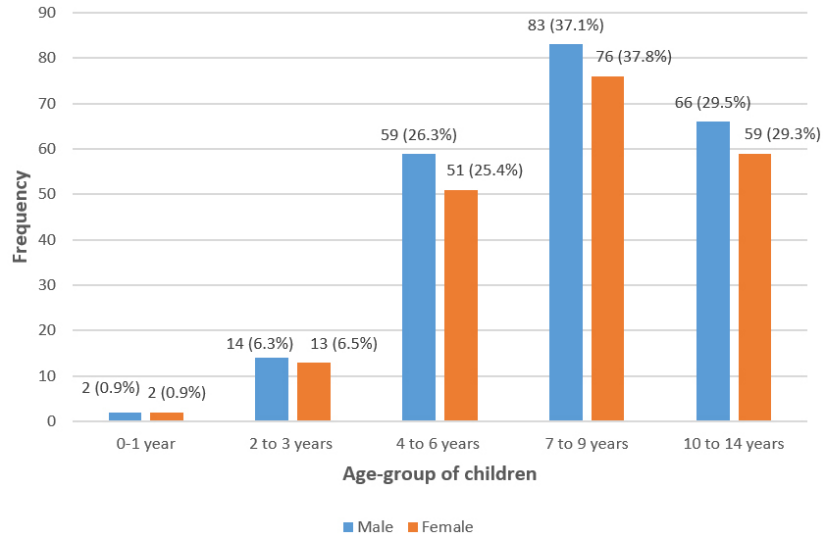


Figure 1. Age-wise distribution of children at first dental visit (n=425).

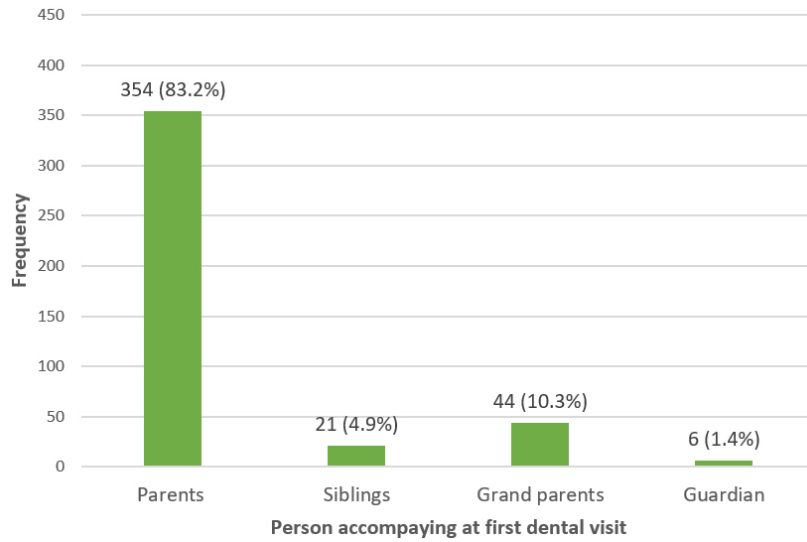


Figure 2. Distribution of persons accompanying children at first dental visit (n=425).

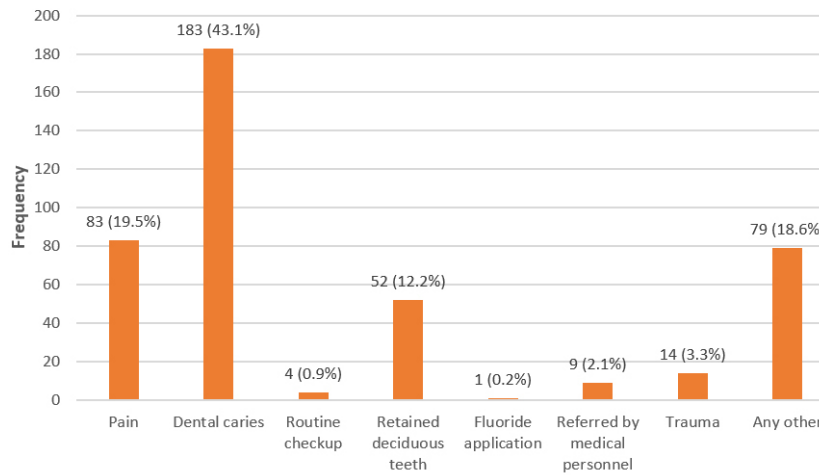


Figure 3. Distribution of participants according to reasons of first dental visit (n=425).

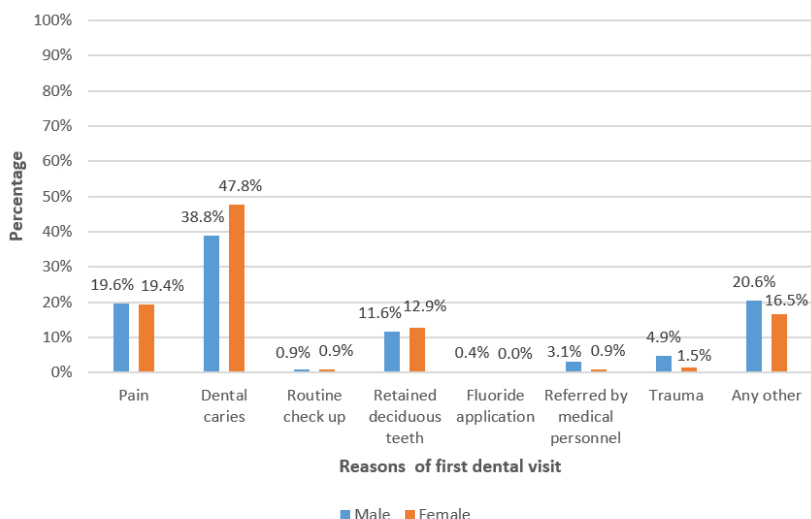


Figure 4. Gender-wise distribution of children according to reasons of first dental visit.

Regarding parents’ attitude on first dental visit, the higher percentage of parents (83.1%) agreed that first dental visit of child is important. Of those who agreed, only 10.8% responded that the first dental visit should be done before the tooth erupts in oral cavity. The best approach in bringing child for his/her first dental visit is enhancing the child as answered by 97.8% of the participants. Almost all parents (94.3%) felt that milk teeth need dental treatment and its treatment will not cause any damage to the permanent teeth. However, 17.4% of them thought treating milk teeth could cause damage to the permanent teeth. (Table 2).

Majority of the parents (63.3%) selected Pediatric dental OPD (BPKIHS) for their children treatment due to the quality of treatment it provided (Figure 5).

No significant difference was observed between age and gender of first dental visit ($p=0.917$) (Table 3) and gender and reasons of first dental visit ($p=0.065$) (Table 4) whereas a statistically significant association was observed between age and reasons of first dental visit ($p<0.01$) (Table 5).

Table 1. Age-wise distribution of reasons of first dental visit (n=425).

Reasons	Age-group (years) [n (%)]				
	0-1	2 to 3	4 to 6	7 to 9	9-14
Pain	0 (0.0%)	3 (11.1%)	24 (21.8%)	33 (20.8%)	23 (18.4%)
Dental caries	0 (0.0%)	11 (40.7%)	63 (57.3%)	60 (37.7%)	49 (39.2%)
Routine dental check-up	1 (25.0%)	0 (0.0%)	2 (1.8%)	1 (0.6%)	0 (0.0%)
Retained deciduous teeth	0 (0.0%)	0 (0.0%)	4 (3.6%)	23 (14.5%)	25 (20.0%)
Fluoride application	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.6%)	0 (0.0%)
Referred by medical personnel	0 (0.0%)	2 (7.4%)	1 (0.9%)	5 (3.1%)	1 (0.8%)
Trauma	2 (50.0%)	2 (7.4%)	4 (3.6%)	3 (1.9%)	3 (2.4%)
Any other	1 (25.0%)	9 (33.6%)	12 (10.9%)	33 (20.8%)	24 (19.2%)
Total	4 (100%)	27 (100%)	110 (100%)	159 (100%)	125 (100%)

*Any Other: Cleft lip, abscess, swelling and malocclusion.

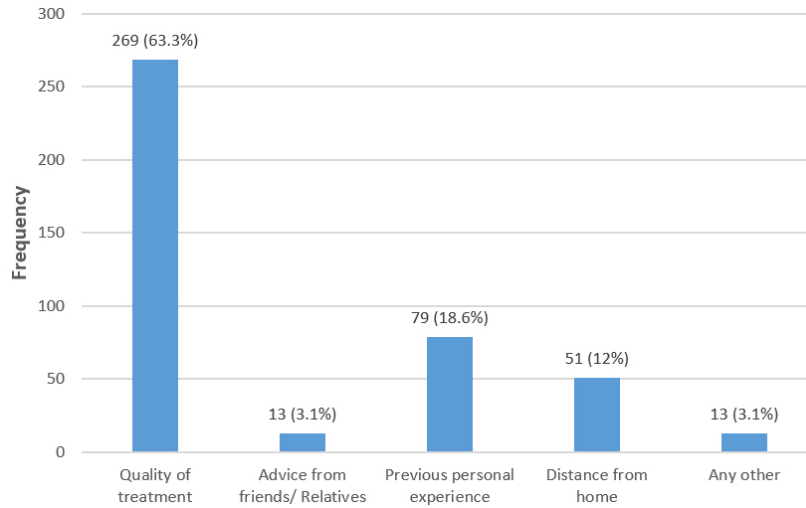


Figure 5. Distribution of participants according to reasons for selecting place of treatment (n=425).

Table 2. Descriptive statistics for knowledge and attitudes of parents towards first dental visit of children (n=425).

Knowledge			
S.N.	Questions	Yes [n (%)]	No [n (%)]
1.	Do you know that we have two sets of teeth-milk teeth and permanent teeth?	304 (71.5%)	121 (28.5%)
2.	Do you know that milk teeth are important and have to be preserved till they fall on their own?	319 (75.1%)	106 (24.9%)
3.	Do you know that first dental visit of child should be within 6 months and no later than 1 year?	79 (18.6%)	346 (81.4%)
4.	Do you know that tooth decay can be prevented?	277 (65.2%)	148 (34.8%)
5.	Do you know that fluoride can prevent tooth decay?	48 (11.3%)	377 (88.7%)
6.	Do you know that early removal of teeth will cause malocclusion?	278 (65.4%)	147 (34.6%)
7.	If your child suffered trauma to teeth and gums, do you know that you have to take your child immediately to the dental clinic?	389 (91.5%)	36 (8.5%)
Attitude			
8.	Do you think first dental visit of your child is important?	a. Yes	353 (83.1%)
		b. No	72 (16.9%)
9.	If YES, when do you think should be the first dental visit of your child?	a. Before the tooth erupts	46 (10.8%)
		b. As soon as the tooth erupts	44 (10.3%)
		c. 6 months	40 (9.4%)
		d. 1 year	54 (12.7%)
		e. Only when there is pain	241 (56.7%)
10.	What is the best approach in bringing the child to the first dental visit?	a. Force child	4 (0.9%)
		b. Enhance child	416 (97.8%)
		c. Not to tell child	5 (1.2%)
11.	Do you think milk teeth need dental treatment?	a. Yes	401 (94.3%)
		b. No	24 (5.6%)
12.	Do you think treating milk teeth will cause damage to permanent teeth?	a. Yes	74 (17.4%)
		b. No	351 (82.6%)

Table 3. Association between age and gender of first dental visit (n=425).

Age-groups (years)	Male [n (%)]	Female [n (%)]	Total [n (%)]	p-value
0-3 years	16 (7.1%)	15 (7.5%)	31 (7.3%)	0.917 ^a
4 to 6 years	59 (26.3%)	51 (25.4%)	110 (25.9%)	
7 to 14 years	149 (66.5%)	135 (67.2%)	284 (66.8%)	
Total	224 (100%)	201 (100%)	425 (100%)	

^aChi Square Test

Table 4. Association between gender and reason of first dental visit (n=425).

Reasons of first dental visit	Gender		Total [n (%)]	p-value
	Male [n (%)]	Female [n (%)]		
Pain/ Dental caries	131 (58.5%)	135 (67.2%)	266 (62.6%)	0.065 ^a
*Others	93 (41.5%)	66 (32.8%)	159 (37.4%)	
Total	224 (100%)	201 (100%)	425 (100%)	

*Others: Routine check-up, retained deciduous teeth, fluoride application, referred by medical personnel, trauma, cleft lip, abscess, swelling and malocclusion.

^aChi Square Test

Table 5. Association between age at first dental visit and reasons for visit (n=425).

Reasons of first dental visit	Age-group (years) [n (%)]			p-value
	0-3 years	4 to 6 years	7 to 14 years	
Pain/Dental caries	14 (45.2%)	87 (79.1%)	165 (58.1%)	<0.01 ^a
*Others	17 (54.8%)	23 (20.9%)	119 (37.4%)	
Total	31 (100%)	110 (100%)	284 (100%)	

*Others: Routine check-up, retained deciduous teeth, fluoride application, referred by medical personnel, trauma, cleft lip, abscess, swelling and malocclusion.

^aChi Square Test

DISCUSSION

The present cross-sectional study showed the mean age of the children seeking their first dental visit was 7.75±3.01 years and the majority of the children were of age group 7-9 years. This finding is comparable to many studies done in Nepal,¹² India⁸ and Nigeria⁹ where majority of the children seeking their first dental visit were at 7-11 years, 6-9 years and 7-9 years respectively. However, studies done in South India¹¹ and South Arabia¹⁶ reported that the children had their first dental visit at 5-6 years and 3-6 years respectively.

The results regarding the age of the first dental visit in current study were not in accordance with American Academy of Pediatric Dentistry (AAPD). This study showed that only few (0.9%) children had dental visit within 1 year of age especially due to dental trauma and cleft lip. This finding is in concordance with a study done by Olatosi et al.⁹ In contrary, Samuel et al.¹¹ and Alshahrani et al.¹⁶ reported a higher percentage of children visiting within 1 year of age.

The major goal of the first dental visit is to motivate and educate parents to take all necessary measures to

prevent early oral disease and to promote oral health of their infants and toddlers.¹⁹ Despite the appropriate recommended age of children's first dental visit, still the universal practice for the children's first dental visit is lagging.⁹ Several reasons for the delayed presentation of child's first dental visit were either lack of awareness or poor knowledge among parents/caregivers regarding the ideal age of child's first dental visit, significance of primary dentition, its importance in general health and well-being of the child and due to financial constraints. Parents also believed that dental visit before the age of 1 year or without any problem is inappropriate due to child's uncooperative behavior, lack of compliance and lack of incomplete eruption of teeth^{9,14,20}

In the present study, commonest reasons for the first dental visit were dental caries and dental pain. Above finding enhances the need for stressing on preventive measures. Similar reasons were reported in several other studies done in different parts of the world.^{8-12,16,21} Four participants in the present study visited for routine check-up and interestingly, one participant visited for preventive measure that is fluoride application. However, a study done in Sao Paulo among 0-36 months old showed that orientation/prevention as the predominant reason for seeking dental care in younger age-groups followed by caries/treatment as they believed caries process increases with an increase in age.²²

The present study showed an association between age and reason of the first dental visit where children in older age-groups mostly visited due to pain and dental caries. Similar findings were reported in Nigeria.⁹ Majority of the children were accompanied by their parents during their first dental visit which corroborates to the finding reported by Alshahrani et al.¹⁶ More than half of the parents selected dental hospital/clinic for dental treatment due to the superior quality of treatment they provided. This is in contrary to the study done in Saudi Arabia¹⁶ where parents selected the place of treatment for their children based on their previous personal experience.

Parents being the role model and primary health care takers of their children, their knowledge and attitude towards oral health must be assessed timely which ultimately affects their children's oral health care access.²³ It is of utmost importance to change parents attitude for the betterment

of their child's health thereby instilling positive attitude at early life.¹⁷ Therefore, the present study was attempted to understand the parent's knowledge and attitude towards the first dental visit of the children. More than two third of the parents in the present study had knowledge on the presence of two sets of human dentition and importance of milk teeth which is in concordance to the findings reported by Sanguida et al.⁸, Winner et al.¹⁵, and Hussein et al.²⁴ Unless parents know the importance of milk teeth they will not be saving them.¹⁵

The first dental visit of a child is an essential part of the child's general health care and an important milestone in the child's development.¹⁵ Our study found that most of the parents knew the importance of the first dental visit of their child. However, only 18.6% knew the ideal time to visit a dentist. This is comparable to the findings reported by other studies.^{8,15,24}

More than half of the parents knew that tooth decay can be prevented. Only 11.3% of the participants had knowledge on the role of fluoride in prevention of tooth decay which was similar to the studies^{8,25} done in India. In contrary to this, Winner et al.¹⁵ reported that 50% of the parents were aware about the role of fluoride in prevention of tooth decay. Parents who thought that the decay can be prevented had less decay in their children.¹⁷

It is important to know that the early removal of primary teeth could have negative effects on a child's oral and overall health. It can affect children's speech and functional activity with an increase in the risk of malocclusion in permanent dentition.²⁴ About one-third of the parents in the present study were unaware about the risk of malocclusion resulting from early loss of primary teeth although more than half of the parents were aware about the risk of developing malocclusion in permanent dentition. This increased awareness among parents could be a result of their own experience or the malocclusion that had been noticed in their elder children.

Almost all of the parents in the present study reported that the milk teeth can be preserved by dental treatment. This is in contrary to the finding reported in India where only 54% of parents thought that the milk teeth should be treated.⁸ Few parents did not agree on the treatment of the milk teeth since it would cause damage to the permanent

teeth. Parents might have thought treating the milk teeth is a waste of time and money since it will eventually exfoliate.²⁶

The outcome of the present study revealed that majority of the parents brought their children for their first dental visit at an older age only when they experienced pain or noticeable dental caries. Parents focused more on therapeutic treatment rather than preventive which reflects a lack of considerable knowledge among them. Being a single center study, it could compromise the generalizability of the study. Since it was a questionnaire-based study, there are chances of information bias. Also, it did not assess the barriers for an early dental visit of the child.

CONCLUSIONS

This study indicated that majority of the children visited the dental out patient department (OPD) for the first time at

7-9 years of age. Parents brought their children especially when they had pain or dental caries. Very few parents had knowledge on ideal age of first dental visit. Health care professionals such as gynecologists and pediatricians should be informed about the ideal age and role of first dental visit so that they can play a vital role in promoting first dental visit of child at the recommended age.

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Conflict of Interest: None

INAPD

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