

The relation between mothers' attitude toward dentistry and the oral status of their children

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Abstract

The purpose of this investigation was to explore the effect of maternal attitude toward dentistry on the dental status of the mothers and of their children. The study population was 65 mothers and 173 children from six kindergarten classes in a middle class community in Israel. The data recorded included caries prevalence (DMFT/S — deft/s), oral hygiene (OHI), and gingival health (GI). Each mother answered a questionnaire that included components dealing with attitude regarding herself and her attitude regarding her child. The findings indicated that the more positive a mother's attitude regarding herself, the lower her caries rate. The more positive a mother's attitude regarding her child, the less caries the child had, the better the child's oral hygiene, and the more dental treatment the child received.

Attitude has been defined as consistency in the form of reaction to social demands; it is expected to create preparation and guidance to the manifest behavior of the individual.¹

Triandis,² and Kerman and Trebbi³ described attitude as having three major components: cognitive, emotional, and behavioral, each contributing to the formation of the attitude. Other investigators reported that attitude does not always correspond to expected behavior. They have suggested additional components which might play a role such as one's moral standards, habits, social expectations, and social pressures.^{4,5}

Rayant⁶ was unable to find any correlation between his patients' gingival health and answers to a questionnaire which examined their attitude toward dental care. However, Friedman et al.⁷ found less caries in children whose parents had a better attitude toward dentistry. Similarly, Eijkman et al.⁸ showed that the better the mother's attitude the less plaque her child had.

The purpose of this investigation was to determine whether there are correlations between mothers' at-

titude toward dental health care, their own dental status, and the dental status of their children.

Two hypotheses were tested:

Hypothesis A. The more positive a mother's attitude is, the better will be her dental status; i.e., less caries, better oral hygiene, and better gingival health.

Hypothesis B. The more positive the mother's attitude is toward dental health the better will be her child's dental status.

Methods and Materials

One hundred seventy-three children, five to six years of age from six kindergarten classes in a middle class suburban community in Israel were examined. Eighty-five boys, 88 girls, and 65 mothers took part in the study. The children were examined in a school clinic, using a dental light, mirror, and probe. They were notified of the visit a few days earlier and came to the clinic with their teachers.

The following data were recorded on a special examination chart: caries prevalence (deft/s), oral hygiene index,⁹ and gingival index (GI).⁹

The study's nature and relevance were explained to the mothers at a meeting in their child's classroom. A few days after the examination of the children, the mothers were invited to the dental clinic for an examination of their own teeth. Appointments were set at the convenience of those who could not come on the day of the meeting. Every effort was made to encourage and facilitate the participation of the mothers. Just before the dental examination every mother was asked to answer a questionnaire reflecting her attitude toward dentistry (Figure 1). The questions were divided into four categories:

- K-1 Mother's understanding and feelings regarding her own dental needs (questions 14, 18-21)
- K-2 Mother's understanding and feelings regarding her child's dental needs (questions 7, 17, 22-24)

Figure 1. Mother's attitude towards dentistry questionnaire.

Name _____ Kindergarten _____ Date _____

Score

- | | | | |
|--|------------------|---|------------------|
| 1. At what age was your child's first visit to the dentist?
_____ | | 12. How often do you replace your toothbrush?
a. every six months
b. once a year
c. once every two years
d. cannot remember | 4
3
2
1 |
| 2. When do you replace your child's toothbrush?
a. when it is worn down
b. every six months
c. every year
d. cannot remember | 2
4
3
1 | 13. Did you have a toothache this year?
a. yes
b. no | 1
2 |
| 3. Who supervises your child's toothbrushing?
a. himself
b. father
c. mother
d. another _____ | 1
3
3
2 | 14. How good do you think your teeth are?
a. very good
b. good
c. not so good
d. bad | 4
3
2
1 |
| 4. How often does the child brush his teeth?
a. cannot remember
b. three times a week
c. once a day
d. twice a day | 1
2
3
4 | 15. Do you visit the dentist at least once a year if you don't have a toothache?
a. yes
b. no | 2
1 |
| 5. What toothpaste does your child use?
a. a children's toothpaste
b. the family's toothpaste
c. without toothpaste | 3
2
1 | 16. Did you talk with your child about dental treatment?
a. yes
b. no | 2
1 |
| 6. How many times did your child visit the dentist in the last year?
a. never
b. once
c. twice
d. more than twice | 1
2
3
4 | 17. Does your child have problems with his teeth?
a. yes
b. no | 1
2 |
| 7. Is your child afraid of the dentist?
a. very afraid
b. afraid
c. just a little
d. not at all | 1
2
3
4 | 18. Do you have your own dentist?
a. yes
b. no | 2
1 |
| 8. Did your child receive fluoride tablets?
a. yes
b. no | 2
1 | 19. Are you satisfied with the treatment you receive from your dentist?
a. very satisfied
b. satisfied
c. not so satisfied
d. not satisfied | 4
3
2
1 |
| 9. How often do you brush your teeth?
a. three times a week
b. once a day
c. twice a day
d. after every meal | 1
2
3
4 | 20. Are you afraid of dental treatment?
a. very afraid
b. afraid
c. just a little
d. not afraid | 1
2
3
4 |
| 10. What kind of a toothbrush do you use?
a. hard
b. soft
c. medium
d. do not know | 2
4
3
1 | 21. Does talking about it make you uncomfortable?
a. yes
b. no | 1
2 |
| 11. Do you use other methods of cleaning your teeth?
a. yes
b. no | 2
1 | 22. Is it important to treat baby teeth?
a. very important
b. not so important
c. unimportant | 4
3
2 |
| | | 23. How often do you think a child should brush his teeth?
a. at least three times a week
b. at least once a day
c. twice a day
d. after every meal | 1
2
3
4 |
| | | 24. How would you describe your child's teeth?
a. very beautiful
b. nice
c. not so nice
d. not nice at all | 4
3
2
1 |

K-3 Mother's behavior regarding prevention and treatment of her own oral cavity (questions 9-13, 15)

K-4 Mother's behavior regarding prevention and treatment of her child (questions 1-6, 8, 16).

Every mother answered the questionnaire and then had a dental examination similar to her child's. The written responses were scored from 1 to 4, the more positive answer receiving the higher score. On question number one (belonging to the K-4 category) the higher score was given to the younger age (2-3 years) and the lower score to the older age (5 years).

The reliability of the questionnaire was examined by using the item per total correlation test. The individual questions showed significant correlations to the group of questions to which they belonged, K-1 — K-4 (Figure 3). The data were transferred to a computer for statistical analysis with the help of the Unit for Statistical Counseling of the Tel Aviv University, using the Pearson correlation coefficient.

Results

The findings were correlated to the score received for each of the four categories in the questionnaire (K-1 — K-4), as each represented a different component of the mothers' attitude.

Hypothesis A. The better the mother's attitude the better her oral status. A significant correlation was found between mothers' attitude regarding their dental needs (K-1) and their caries prevalence (DMFT). The more positive their attitude was the less caries was recorded. Another significant correlation showed that the more positive attitude mothers had regarding their children (K-4), the better was their oral hygiene and gingival health (Table 1).

Hypothesis B. The more positive the mother's attitude, the better will be her child's dental status.

The significant correlations were found only in the child-related categories, K-2 and K-4 (Table 2). The more positive the mother's attitude regarding her child's needs, the lower the caries experience and the better the oral hygiene. The higher the score the mother received regarding prevention and treatment of her child (K-4), the better was his oral hygiene, and he received relatively more treatment (*f/def*).

Discussion

Partial support could be obtained for the hypotheses. Two correlations were of special interest: (1) the more positive a mother's attitude was regarding herself the fewer caries she had, and (2) the more positive a mother's attitude was regarding her child, the better was the dental condition of the child.

Hypothesis A, relating mothers' attitude to their own dental status, was supported, thus showing a significant correlation between attitude and DMFT

Figure 2. Item per total correlation of each question to the category to which it belongs.

Category	No. of question	No. of responses	r	p
K - 1	17	65	0.5538	0.001
Mother's attitude regarding her own dental needs	22	65	0.5745	0.001
	23	62	0.5592	0.001
	24	65	0.6180	0.001
	25	65	0.5050	0.001
K - 2	10	59	0.6946	0.001
Mother's attitude regarding her child's needs	20	65	0.6111	0.001
	27	63	0.4177	0.001
	28	65	0.2519	0.021
	29	64	0.5383	0.001
K - 3	12	65	0.2503	0.022
Mother's behavior regarding prevention and treatment for herself	13	65	0.4205	0.001
	14	65	0.5111	0.001
	15	65	0.6419	0.001
	16	65	0.4609	0.001
	18	65	0.6129	0.001
K - 4	2	36	0.5230	0.001
Mother's behavior regarding prevention and treatment of her child	3	65	0.6668	0.001
	4	65	0.2673	0.016
	5	65	0.4241	0.001
	6	65	0.2932	0.009
	11	65	0.4224	0.001
	19	65	0.5748	0.001

Table 1. Correlations Between Mothers' Attitude and Dental Status

Mother	K ₁ ^o	K ₂ ^o	K ₃ ^o	K ₄ ^o
DMFT	-.263*	.030	.039	.062
	P = .018	P = .407	P = .379	P = .312
GI	.096	-.034	-.144	-.393*
	P = .225	P = .230	P = .127	P = .001
OHI	-.110	-.166	-.037	-.251*
	P = .194	P = .095	P = .386	P = .023

^o K₁ - K₄ represent mean attitude scores given to each category in the questionnaire.

* Significant below p=0.05.

score. Similarly, Kuster and Sullivan in 1980¹⁰ showed a high correlation between body image (that could be considered a component of attitude [emotional]), caries prevalence (DMF), and oral hygiene. In the present study no correlation could be found between attitude and oral hygiene. This was similar to the findings of Rayant.⁶ It appears that attitude plays the role of a predisposing factor rather than a determining factor in the formation of overt behavior. Not surprising, therefore, were the findings that no correlation was found between reported behavior (K-3) and actual behavior (OHI and GI).

Modifying the behavior through improving the cognitive component of the attitude by improving knowledge, for instance, will not succeed.¹¹ Attitude could be modified by norms and social pressure.³⁻⁵ The establishment of good dental health as an accepted social norm would increase the probability of behavioral change.

Hypothesis B related mother's attitude to child's dental status. The two groups of questions dealing with mother's attitude regarding her child (K-2 and K-4) showed significant correlation to the child's oral hygiene level and the amount of treatment he received, supporting this hypothesis. The relatively higher number of fillings signified better care in this group, rather than lower *deft*, since preventive measures generally are not accepted as yet in this community and better care only means, therefore, more treatment. Friedman in 1976⁷ found a similar relation and commented that children react to their parent's dental attitude. In a national survey of English and Welsh children conducted by Todd in 1973,¹² better dental health was reported in children whose mothers had a positive attitude, thus substantiating the findings of this study.

Only mothers' attitude was evaluated because they have the dominant influence on their children's life style at kindergarten age. Shaw and Murray in 1980¹³ showed significant correlation between parents and children in both caries-resistant and caries-susceptible families as was shown also by Garn et al.¹⁴ The mother also could influence caries prevalence by determining the family's diet.¹⁵ Although many opportunities were offered to mothers to facilitate their participation, only 65 took part in the study. One explanation why the results were not more definite could be that the mothers who answered the questionnaire were already the ones with more positive attitudes.

Conclusions

There is not a direct correlation between attitude and behavior. The results indicate that the relation of attitude to behavior is not a straightforward cause and effect connection, but rather a more elusive relationship with various external (objective) and internal (subjective) factors playing a role in the process. Positive maternal attitude regarding her child's dental health was related to better dental health of the child. Therefore, the results strongly suggest that the dental health of young children could benefit from educating and motivating their mothers. This could be achieved by direct methods of instruction in schools and dental clinics and enhanced by creating social norms through mass media that are acceptable and easily adopted.

Table 2. Correlations Between Mothers' Attitude and Their Children's Dental Status

Child	K ₁	K ₂	K ₃	K ₄
<i>deft</i>	.013 P = .460	-.393* P = .001	-.010 P = .468	.112 P = .187
GI	.163 P = .098	-.077 P = .271	.108 P = .195	.139 P = .135
OHI	.058 P = .322	-.197* P = .058	.159 P = .102	.279* P = .012
<i>ft</i>	.118	-.048	.161	.256*
<i>deft</i>	P = .203	P = .368	P = .462	P = .033
<i>fs</i>	.113	-.051	.141	.282*
<i>defs</i>	P = .212	P = .361	P = .159	P = .021

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