

ORIGINAL ARTICLE

The Mother's Role in Improving the Oral and Dental Health of their Children: Application of Planned Behavior Theory

BAHAREH KABIRI¹, ALI REZA HIDARNIA^{2*}, MEHDI MIRZAEI ALAVIJEH³, MOHAMMAD ESMAEEL MOTLAGH⁴¹Health Education and Health Promotion, faculty of medical Sciences, Tarbiat Modares University, Tehran, Iran. E-mail: b.kabiri@modares.ac.ir²Professor, Department of Health Education and Health Promotion, faculty of medical Sciences, Tarbiat Modares University, Tehran, Iran. E-mail: hidarnia@modares.ac.ir³PhD of Health Education and Promotion, Islamic Studies and Health Sciences Interdisciplinary Research Center, Kermanshah University of Medical Sciences, Kermanshah, Iran. E-mail: mehdimirzaiea@yahoo.com⁴School of Medicine, Jundishapur University of Medical Sciences, Ahvaz, Iran. E-mail: Dr.motlagh.ms@gmail.com

* Corresponding author E-mail: hidarnia@modares.ac.ir

ABSTRACT

Introduction: It is necessary to identify the factors affecting the behaviors of the parents, especially mothers, in improving children's oral and dental health according to the theories of behavior change. This research aimed at determining the role of mothers in improving the oral and dental health of the children on the basis of the planned behavior theory.

Materials & Methods: This was a descriptive-analytical, cross-sectional study. The research population included 240 subjects selected through the stratified random sampling from the mothers in the city of Ilam, Iran. The data collection tool was a questionnaire, which consisted of two sections: seven demographic and background questions, five items about attitude, four items about subjective norms, and five items concerning behavioral intention, which were completed as self-report. The collected data were analyzed using SPSS-21 software through descriptive and analytical tests such as independent t-test, linear regression, and Pearson correlation coefficient that were examined and had a significant level of 0.05.

Findings: The participants' age ranged from 20 to 44 (mean=5.67±31.8). The linear regression test indicated the structure of attitude ($B=0.135$, $P<0.001$), perceived behavioral control ($B=0.398$, $P<0.001$), subjective norms ($B=0.236$, $P<0.001$), and explained the 46% of the behavioral intention variance.

Conclusion: Taking into account the impact of the attitude structure on the behavioral intention predicting, therefore, this structure should be employed in designing the preventive training programs in the framework of the theory of the planned behavior.

Keywords: Attitude, Theory of Planned Behavior, Mothers, Dental Health.

INTRODUCTION

One of the health assessment criteria of the people in a society is examining their oral and dental health (1).

The mouth is the mirror to the body and teeth are the most important parts of the body. Teeth are responsible for chewing, talking, beauty, and protection of the periodontal tissues (2).

Oral health in dentistry means developing and maintaining effective preventive habits in people (3).

In accordance with the World Health Organization (WHO), oral health enables a person to talk, socialize, and eat without any illness or anxiety. The foundation of the health and welfare of the body is its oral health, which influences the quality of life and the general status of the body (4).

The American Dental Association (ADA) provided a definition of oral health in 2001 that was very well-received. This association in their definition indicated that oral health is a state of the oral structure and tissue that includes the social, psychological, and physical welfare of a person and helps to enjoy life and it enables the person to talk, eat, and socialize with others (5).

A child's primary teeth (milk teeth) normally start to come in (erupt) at 6 months of age and their set completes at 2.5 years old. When the child is 6 years old, their permanent teeth start growing and gradually they replace the primary teeth. Growth of the permanent teeth continues

until the age of 12 years old, therefore, the child might still have few milk teeth at this age. The primary teeth are responsible for chewing food, maintaining the appearance, the beauty of the face, and talking. However, their most important responsibility is to preserve the space required for the growth of the permanent teeth. Thus, by taking care of the primary teeth of the child, you can expect the child's permanent teeth to grow and develop properly (6, 7).

The American Academy of Pediatrics (AAP), stressed that specialized care for identifying the risk factors affecting the oral and dental health in all children must start before the age of 6 months (8). The parents, are the first social forces that influence the child's growth and health at their early ages and they have a crucial role in developing healthy habits, and continuance of the healthy behavior in children and preventing diseases (9).

The parents teach oral and dental health to their children and in the future, the parents' awareness, attitude, and beliefs will impact the child's oral and dental health. However, the parents' have poor information regarding the importance of the primary teeth and they do not consider them to be very important (10-12).

Improving the behaviors pertinent to the oral and dental health in the people requires an understanding of the basic factors that has a vital role in the decisions they make regarding the proper behaviors. This requirement will be met merely by employing a theory for identifying the

mediation factors in the behaviors pertinent to oral and dental health (13).

The theory of the planned behavior is numbered among the most famous theories in this regard. The theory of the planned behavior provides a framework for the regular and fundamental investigation of the problems pertinent to making the behavior-related decision (14).

According to this theory, the most important determinant of a person's behavior is behavioral intention. The intention arises from three factors such as attitude, subjective norms, and perceived behavioral control. A person's belief in the results of their behaviors and evaluations leads to the creation of attitude. The subjective norms are affected by the person's beliefs regarding others' expectations and the person's motivation for meeting those expectations. The perceived behavioral control is a degree of the feelings in a person regarding that to what extent they are in control of displaying or not displaying a behavior (14). This theory elaborates on approximately 40 percent of the relationship between intention and behavioral health. Therefore, this theory is claimed to have a potential capacity in developing the inferences of behavior change (15).

Accordingly, the present research was conducted to determine the role of the mothers in improving the oral and dental health of children on the basis of the theory of the planned behavior.

MATERIALS & METHODS

This is a descriptive-analytical cross-sectional study. It was carried out on 240 mothers with children between 6-month to 1-year-old in the city of Ilam in 2018-2019. Taking into consideration the validity level of 98% ($\alpha = 0.05$), and precision (0.2), the sample size was estimated to be 240 ($n=240$).

The mothers went to 18 health centers in the city of Ilam (located in the South of Iran) were selected through stratified random sampling and proportionate to the total population.

The inclusion criteria for the research were having children with the age ranging from 6 months to 1 year old, having healthy children, having health record, having the minimum literacy to read and write. The data were collected based on the questionnaire created by the

researcher by interviewing the mothers. To examine the validity of the questionnaire, it was investigated by 10 specialists in the field of dentists' health education and health promotion, and the required revisions were applied. Furthermore, the Cronbach's Alpha was employed for assessing the reliability of the questionnaire and the Cronbach's Alpha was investigated and approved for attitude structure ($\alpha = 0.71$), perceived behavioral control ($\alpha = 0.78$), the structure of the subjective norms ($\alpha = 0.76$), the behavioral intention structure ($\alpha = 0.70$).

The questionnaire comprised two sections. The first section included 7 questions such as demographic and background questions of the participants, and the second section included structures such as the planned behavior model, 5 items for attitude, 5 items for the perceived behavioral control, 4 items for subjective norms, and 5 items for behavioral intention. All these questions were measured on the basis of the Likert scale ranging from 1 (completely disagree) to 5 (completely agree).

The data were analyzed using the statistical software of SPSS through statistical tests such as frequency distribution, Pearson correlation coefficient, and linear regression analysis.

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FINDINGS

The participants' age ranged from 20 to 44 (mean=5.67±31.8). Among the participants, 105 subjects (43.7) were high school drop-outs, 135 subjects (56.3) had academic education (Table 1). Among the various structures, the participants achieved the highest score in the behavioral intention structure by obtaining 29% of the maximum acceptable score (Table 2). Among the different structures of the theory, the structure of the perceived behavioral control and the behavioral intention had the highest correlation ($r=0.562$, $p<0/001$) (Table 3). Besides, the structure of the attitude had higher predictive potential than other structures with respect to the behavioral intention and it predicted 9.1 percent of the behavioral intention variance (Table 4).

Table 1: The Demographic & Background Variables of the Participants of the Research:

	Mother's Education		Father's Education			Mother's Occupation			Father's Occupation		
	High School Drop-Out	University Education	High School Drop-Out	High School Diploma	University Education	Housewife	Employee	Business Person	Retired	Employee	Business Person
Number	105	135	27	78	135	175	46	19	3	232	5
Percentage	43.7	56.3	11.2	32.5	56.3	72.9	19.2	7.9	1.3	96.7	1.2

Table No. 2: Mean Scores of Various Structures of the Theory of Planned Behavior:

Variable	Mean	Standard Deviation	Minimum Score Obtained	Maximum Score	Score Range	Mean Percentage of the Maximum Score
Attitude	21.45	2.5	14	25	5-25	2.5
Perceived Behavioral Control	21.5	3.1	8	25	5-25	3.1
Behavioral Intention	19.8	3.2	7	25	5-25	3.2
Subjective Norm	11.04	2.88	4	15	4-20	2.8

Table No. 3: The Correlation among Various Structures of the Theory of Planned Behavior:

Structures	Attitude	Perceived Behavioral Control	Behavioral Intention	Subjective Norm
Attitude	1	**0.437	0.335	---
Perceived Behavioral Control	**0.437	1	**0.652	**0.447
Behavioral Intention	**0.335	**0.562	1	**0.429
Subjective Norm	----	**0.447	**0.429	1

** Significance at level 0.01 , * Significance at level 0.05

Table No. 4: The Predictive Potential of Various Structures of the Theory of Planned Behavior in Comparison to the Tooth Decay Preventive Behavior:

Variable	B	SE	Beta	T	R2	P-value	Dependent Variable
Attitude	171	0.73	0.135	2.3	46.25	0.001	Behavioral Intention
Perceived Behavioral Control	405	0.65	0.395	6.5		0.001	
Subjective Norm	262	0.65	0.236	4.06		0.001	

DISCUSSION

The present research was conducted aiming at determining the factors affecting the mother's behavioral intention in improving the oral and dental health of their 6-month to 1-year-old children according to the framework of the theory of planned behavior. The results indicated that among the effective structures on behavioral intention on the basis of this theory, the structures of attitude and subjective norms were significantly effective, respectively. Some studies had similar results. In the study conducted by Bashirian et al. (3), the structures of attitude, subjective norm, and perceived behavioral control were the strongest predictor structures (16). In other studies, the structure of the subjective norm was identified as the weakest predictor (18,17). In the present research, the structure of the behavioral intention was considered as the dependant variable, however, in some studies, it is considered as the dependent variable and the impact of other structures on this variable is examined. Therefore, this can be considered as one of the differences between this study and the former studies (19).

In general, the theory of the planned behavior could predict 46.25 percent of the behavioral intention variance. In other studies, the structures such as attitude, subjective norms, and perceived behavioral control predicted 66.2 and 63 percent behavioral intention variance in the field of oral and dental health (21,20). This difference in the amount can be pertinent to the cultural and social background of the respective people. The results of the present research revealed that the most important factor in the behavioral intention of the oral and dental health by the mothers in accordance with the theory of the planned behavior is the attitude that by focusing on them in the educational programs, we can take measures more effectively.

CONCLUSION

Taking into account that the most crucial factor in the behavioral intention of the oral and dental health in children of a family on the basis of the theory of the planned behavior in the present research was attitude, therefore, the results of the present research must be employed in designing preventive educational programs.

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