

Mother's Belief Regarding Their Children's Dental Health as a Potential Predictor of Mother's Dental Health Attitude for Early Childhood

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Abstract

Dental caries remains a common dental health problem and often found in early childhood, aged one to six years. Prevention and management of dental caries in children need special concern. Mother's belief about the importance of maintaining children's dental health is the main principle in shaping mother's health behavior paradigm on children.

To analyze mother's belief about dental health for their children in influencing mother's dental health attitude for early childhood.

This cross-sectional analytical study involved 185 mothers with middle to high economic status. The study population were mothers of children aged three to five years with dental caries enrolled in kindergarten and Early Childhood Education Programs (ECEP) at working area of Community Health Centre Mojokerto. Data obtained were the mean score assessment of mother's belief and attitude about dental health for children, measured by questionnaire.

The 4 assessment aspects of mother's belief had significant association towards mother's attitude on children's dental health.

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Introduction

Dental caries as the major dental public health problem, both in developed and developing country that recorded, despite various trials of preventive strategies has been continuously conducted, especially in children. In many studies about prevalence of dental caries in some countries over the world, particularly developing countries, dental caries is still a common dental health problem and often found in early childhood, preschoolers aged one to six years. Prevention and management of dental caries in children need special concern. Dental

caries in children doesn't only have a potential effect on development, but also has a significant impact upon children's quality of life related to masticatory system and their daily activities. Besides leading to a higher risk of developing new carious lesions at adulthood, untreated severe early childhood caries (S-ECC) may give rise to complications such as pain, school absence, impaired chewing capability, and low self-esteem. These consequences will all adversely affect the children's well-being and their oral health-related quality of life.¹ A dental survey of Brazilian preschool children showed that nearly 27% of children between 18 and 36 months of age have at least one primary tooth with dental caries, with this proportion rising to nearly 60% among five-year-olds.² Meanwhile, in Jakarta, 52% children under 3 years old were suffered from ECC.³ Initial observation conducted by Community Health Center in Mojokerto was also giving the same result, which stated that prevalence of children's dental caries was reaching more than 70% in 2013, despite the

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dental health promotion program for kindergarten and Early Childhood Education Programs (ECEP) students, as well as dental health education for toddler's mothers and pregnant women had been conducted continuously for 4 years.

Caries progress through bacterial fermentation of food debris on a tooth surface, resulting in acid production, that may lead to demineralization of hard tissues of the tooth. This disease has many etiological factors, including feeding habit, oral hygiene practices and bacteria.^{1,4} Other contributing factors are, but were not limited to; *Streptococcus mutans* levels, active dental problems in parents/caregivers, socioeconomic status, and the onset of the first dental visit that beneficial in early diagnosis of caries, and increase parents knowledge about dental health.¹ The parents knowledge about oral hygiene practices, that will also affects dental hygiene status. Nutritional care without adequate mother's knowledge about feeding time and complementary feeding habit has a significant association with early childhood caries. Knowledge-behavior interaction in dental hygiene practices of children and their parents, and delayed baby's first dental visit have association with early childhood caries incidence.⁵⁻⁹

Mothers behavior toward daily oral hygiene practices to promote both themselves and the children dental hygiene, may influence the children dental health status. Mother's health behavior toward themselves has a significant association with early childhood caries experience. It was confirmed in analysis of other study result that found mother's behavior in tooth-brushing had association with children's dental health.¹⁰⁻¹² Previous study stated that behavior is one of the main factors that plays role in health promotion program, therefore in order to prevent caries, the dental health promotion must be carried out as early as possible, along with the behavioral building. Dental health promotion in children requires special concern by referring to children's need and dependence on mother's involvement in parenting and childcare. Mother-child interaction is the main affair in early childhood which has influence on children's psychological and behavioral development in adulthood.¹³

Against the foregoing statement, it is considered that mother's belief regarding dental health may be the main factor in determining the

approaching strategy of dental health promotion for community, particularly for mothers and children. Thus, in order to answer this issue, this present study aimed to analyze mother's belief about dental health for their children in influencing mother's dental health attitude for early childhood.

Materials and methods

The present study was cross-sectional analytical study, which was done according to Medical and health research ethics committee Faculty of Medicine Gadjah Mada University approval with certificate number KE/FK/2/EC. This study involved 185 mothers as samples. They were society of mothers who have children aged 3-5 years with dental caries that enrolled in kindergarten and ECEP at working area of Community Health Centre in Mojokerto. The study process and questionnaire completion by mothers would be carried out after they stated her agreement to get involved as study sample by signing informed consent. The answer choices to each question on instruments of mother's belief regarding dental health and mother's attitude regarding dental health were "Strongly disagree", "Disagree", "Agree", and "Strongly agree", with score ranged from 1 to 4. Instrument employed in this study had been tested through validity and reliability test.

The mothers perceived health belief regarding dental health in this study was measured by means of questionnaire, that was adapted and designed from a previously developed instrument of mother's belief regarding dental health.¹⁴ Mother's attitude regarding children's dental health is mother's response about children's dental health, assessed by the mean score of mother's answers regarding aspect of knowledge in maintaining children's dental health, children's dietary habit, and children's dental visit.^{15,16} The acquired data was analysed by regression model using the SPSS statistical software package version 18.0 (SPSS, Inc., Chicago, IL).

Results

The children participated in this study were distributed more or less evenly, as the number of male and female children were 103 (55.7%) and 82 (44.3%), respectively. While

most of the mothers (95.1%) involved as respondent had completed formal education for more than 9 years, and they mainly (81.6%) had at least 1 to 2 children and lived together with them. Table 1 shows that the mean score of perceived benefit in applying dental health behavior on children is higher than the mean score of perceived barrier in applying dental health behavior.

| Variable | Mean±SD |
|--|------------|
| Mothers' perception about their children's perceived susceptibility to dental health problems | 2.73±0.729 |
| Mothers' perception about the severity risk of dental caries on their children's dental health | 2.80±0.668 |
| Mothers' perception about the benefit of their dental health behaviors towards dental health of their children | 2.99±0.760 |
| Mothers' perception about barriers in their dental health behaviors related to dental health of their children | 2.66±0.625 |
| Mothers' attitude towards dental health of their children | 2.77±0.647 |

Table 1. Description of Mean Value of Variables That Influences Mother's Attitude on Children's Dental Health.

The results show that in the assessment of mother belief on their children dental health, the aspect regarding barriers in their dental health behaviors related to dental health of their children had the lowest mean value (2.66±0.625) compared to the other aspects. Meanwhile, the aspect about the benefit of mother dental health behaviors towards dental health condition of their children had the highest mean value (2.99±0.760). Moreover, in the assessment of mothers' attitude towards their children, it is also known that the mean value of the aspect about mothers' attitude towards dental health of their children have middle range value (2.77±0.647).

Assessment results of regression test of variables that influenced mother's attitude demonstrated that the variables had influence on mother's attitude towards children's dental health. Coefficient assessment of influencing variables revealed that the highest score was obtained by variable of perceived benefit of mother in applying dental health behavior on children (P=0.311) (Table 2).

| Variable | Coefficient | P value |
|--|-------------|---------|
| Mothers' perception about their children's perceived susceptibility to dental health problems | 0.137 | 0.008 |
| Mothers' perception about the severity risk of dental caries on their children's dental health | 0.240 | 0.001 |
| Mothers' perception about the benefit of their dental health behaviors towards dental health of their children | 0.311 | 0.000 |
| Mothers' perception about barriers in their dental health behaviors related to dental health of their children | 0.243 | 0.000 |

Table 2. Results of Model Analysis of Variables That Influences Mother's Attitude on Children's Dental Health (P Value of <0.05 was Accepted as Statistically Significant).

Discussion

Behavior is one of dominant factors that determine dental health status. Based on the health believe models, health behavior is determined by individual's perceptions of a health condition and actions to avoid the condition. The model constitutes four main keys, namely perceived susceptibility, perceived severity, perceived benefits, and perceived barriers.¹⁷ Mother health beliefs and practices related to oral health are likely to vary with different socioeconomic backgrounds and educational levels. Several studies that applied the Health Belief Model to ECC have generally shown that maternal oral health beliefs and behavior influence children's oral health.¹⁸

Considering the great influence of mothers, therefore, in attempt to promote children dental health status, it is necessary to focus on mothers involvement as a caregivers. Mothers play important role in nutrition intake, health-care and controlling children's growth and development process.¹³ Besides, mothers behavior is greatly affect the process of dental health promotion and maintenance in early childhood.¹⁸ Mothers are considered as role model for the children, therefore, the adopted habits during childhood are mostly adapted from their mother.¹⁹

Based on the result of this study, it was stated that mother perception about susceptibility and risk of caries were associated to the mothers attitude towards the children's dental health. Besides, the mothers' perception concerning benefit and barrier of dental health behavior also appeared to be associated to the mothers attitude towards their children's dental health. These findings correspond to the other study that analyzed the knowledge, behaviors, attitudes, and beliefs of parents of ECC-free children among a high caries population of preschool American Indian (AI) children. The parents of caries-free children had better oral health knowledge, adhered to oral health behaviors, had lower perceived susceptibility caries, and fewer perceived barriers to prevention.²⁰

A certain belief, as a background in building health behavior, is based on consideration and decision-making process of some factors, such as the susceptibility to a disease, the severity of a disease, as well as benefit and disadvantage in behavior. The information input concerning health attitude and belief to conduct a certain health behavior, provides a strong motivation for someone in making decision to do certain health behaviors.²¹⁻²⁴

A belief about susceptibility to a disease and the potential prognosis of disease will be the basis in doing prevention and treatment of a disease. Individual readiness is influenced by factors of potential threat regarding susceptibility and severity of a disease and potential opportunity in applying healthy life behavior, wherein such behavior will bring benefit and could be applied with minimal barrier. Applying a healthy life behavior could be influenced by individual characteristic, individual assessment of healthy life behavior-given benefit, and supported by interaction or communication offered by medical staff in any chance they have when interacting with community.^{21,23}

Parents attitude, particularly mother in protecting children's dental hygiene has a significant role in preventing and improving dental health quality in early childhood. The earlier mother clean the children's teeth since it's been erupted, the more positive its impact on prevention of dental caries. Mother's attitude regarding perception in assessing the status and consequences of dental caries on children also has a significant role towards the prevalence of

dental caries in early childhood. Mother's attitude toward dental hygiene practice, that is supported by appropriate pattern of dietary intake attitude may become a success key in ECC prevention. Mother that is aware of the benefit of the proper dental health behavior, will show a better dental health attitude on children, even with the presence of manageable barriers.²³⁻²⁸

Based on the results of analysis, we suggest that it is necessary for community health center to define and emphasis on mother's belief in conducting dental health behavior as the priority in dental health promotion programs for early childhood.

Conclusions

Based on study result and discussion, it has been known that mother's dental health attitude for early childhood is influenced by mother's belief about dental health for their children. Therefore, mother's belief regarding their children's dental health is a potential predictor of mother's dental health attitude for early childhood.

Declaration of Interest

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