

Systematic Review and Meta Analysis: The Effect of Oral Health Literacy to Increasing Mother's Knowledge

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Abstract

Childhood is a period that is vulnerable to problems dental health, because it is a transitional age or replacement of deciduous teeth with permanent teeth. Children who have dental and oral health problems can disturbed quality of life. The purpose of this research is to find out the effect of oral health literacy on the level of knowledge of mothers who have toddlers.

The method in this study uses techniques PICO PRISMA SLR. There were 4 articles that met the inclusion criteria and exclusion for further meta-analysis.

This research using 1632 respondents with an average age of children 3-6 years and the age of the mother between 32-35 years. The mean difference value is -1.22(-1.91,-0.52).Based on the heterogeneity value, it was found that the P-Value was significant ($0.00 < 0.05$).

Several studies have shown that an increase OHL in the elderly seems to improve the DMFT index and behavior oral health of themselves and their children. Therefore required parental health literacy improvement program to improve health children's teeth, this must also be supported by the ability to read, write, understand the information and think critically to sort out the mother's existing information.

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Introduction

Health is one of the important elements in forming a human being quality.¹ Dental and oral health is important which is important in the life of every individual including children, because of teeth and gums that are damaged and left untreated will cause pain, irritation chewing and can interfere with other body health (Id et al., 2022).² Children are an age group that is susceptible to disease. Having oral and dental health problems can interfere with the quality of life and potentially even contributing to stunted growth.^{3,4} Childhood is a period that is vulnerable to dental health problems, because it is a transitional age or change of teeth Decui with permanent teeth (age 6-8 years).^{5,6} The teeth of the newly grown child are not perfect so it is very bad susceptible to damage.⁷

Based on the 2018 Riskesdas, the percentage of Indonesia's population that have dental and oral health problems in 2013 and 2018 increased from 25.9% to 57.6%. According to the 2018 Riskesdas Study, 93% are also aged children Early childhood, namely the age group of 5-6 years experience cavities.⁸ According to the age characteristics of the Indonesian population, the proportion of the population that experienced dental health problems in the age group 3-4 years by 41.1%, the 5-9 years age group of 67.3%. and 55.6% in the 10-14 age group years.⁹

Tooth decay commonly occurs in children, is usually due to sweet food/drink factor this is according to a researcher epidemiologists who argue that children tend to prefer sweet foods such as chocolate and candies that can cause caries.^{5,10,11} Children are very difficult avoid these foods because of the many added ingredients sugar levels. They prefer sweet and sticky foods usually a daily meal at home and school. In general the food is used as a snack between meals and supported by children's ignorance about dental health which can affect the dental status of children.^{12,13}

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One form of effort to minimize dental pain is through educational activities. Dental health education is a promotive action can increase the knowledge and awareness of society to maintain health and improve health status.^{14,15} Oral health literacy is one of the most common types of education used. Oral health literacy is defined as an individual's level of be able to perceive, manage, and understand health care and information services including the ability to make decisions to maintain health.¹⁶

Attitudes and behavior of parents, especially mothers in maintaining dental health have a significant influence on children's behavior. A mother who have good knowledge, attitudes and actions regarding dental health and mouth can also provide good dental and oral health education to his son. Attitudes, behavior and knowledge of mothers about dental health and mouth can be seen from the condition of healthy teeth and mouth.¹⁷

Knowledge is a very important domain in shape one's actions. Knowledge is the result of knowing, and this happens after people do sensing of a particular object. Sensing occurs through the five human senses, namely the sense of sight, hearing, smell, taste and touch. Proven experience and research that, behavior based on knowledge will be more lasting than behavior that is not based on knowledge.¹⁸ Knowledge can also be obtained from certain experiences that have been experienced and from the results of the learning process both formally and informally.¹⁹ The purpose of this study is to determine the effect of literacy oral health on increasing the knowledge of mothers who have children toddler.

Materials and methods

The method used in this research is systematic literature reviews. The research question in this systematic review is "is there the effect of oral health literacy education on the level of mother's knowledge who have toddlers?". A literature search was conducted from August November 2022 using the PICO Technique. Data used in research is secondary data with a predetermined theme. Literature obtained from 2

databases, namely: PubMed, and science direct. Inclusion criteria in this study, namely: articles published in the last 10 years, open access, have in common that meta-analysis can be carried out. Criteria exclusion: research literature review. Search articles using keywords "Oral health education or oral health literacy and mother and early childhood caries. The initial articles obtained from database searches were 1070 articles which are then scanned to get the articles feasible and presented in the form of PRISMA flow diagrams so that 4 articles were found that met the inclusion criteria and could be used meta-analysis.

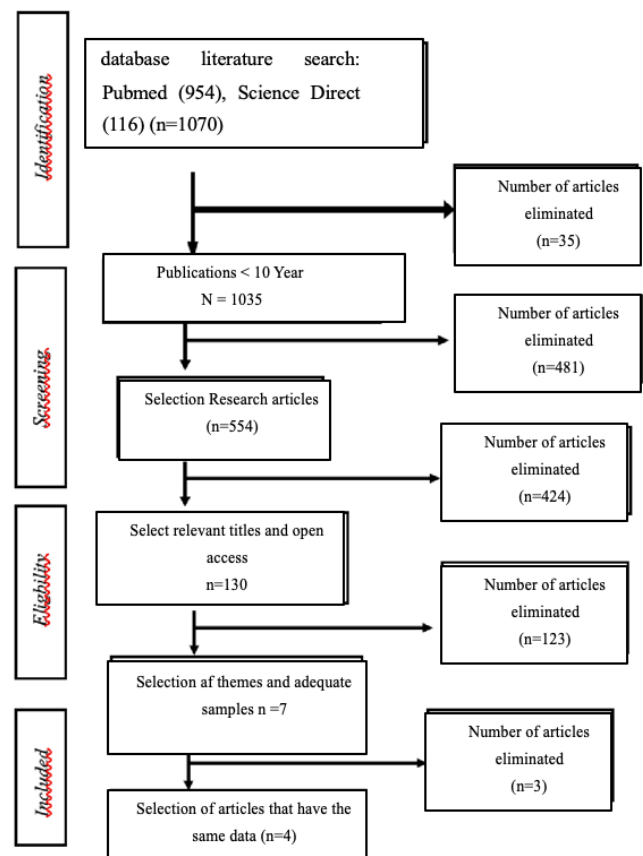


Figure 1. PRISMA Flowchart. (Preferred Reporting Items for Systematic Reviews and Meta-analysis)

Results

The results of the selection of articles obtained 4 articles that met the inclusion and exclusion criteria. Reviewing articles by extracting data regarding the author's name, year of publication, location research, the type of

design, the number of samples and the age of the respondents used, then the results statistics for each study were tabulated. This study used 1632 respondents with an average age children 3-6 years and mother's age between 32-35 years. In Figure 2 it can be seen that 4 studies measure differences in the mean knowledge of mothers who are given dental and oral health literacy. Got it the mean difference is -1.22(-1.91,-0.52). Based on the heterogeneity value obtained that the P-Value is significant (0.00 < 0.05). The level of heterogeneity of these two variables quite high at 98%. This can happen because the variation is quite high in terms of both research location, sample size and others.

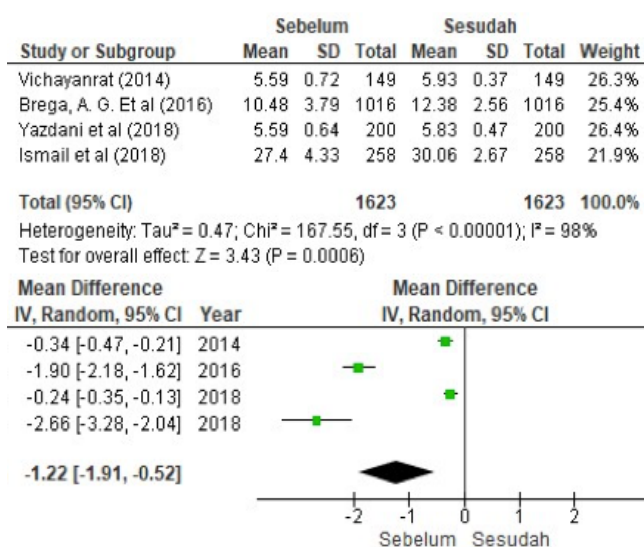


Figure 2. The relationship between oral health literacy and mother's level of knowledge.

From Figure 2 it can be seen that in 4 studies that measured the level of mother's knowledge, all showed improvement before and after the intervention. Oral health plays an important role in general health, maintenance and prevention of oral hygiene lots of disease. More than half have since identified caries-causing factors however, Dental caries is still a burden on the health system in developing countries. Oral health literacy (OHL) is an important factor affecting public oral health²⁰, in line with Ahmad et al who said that Oral Health Literacy (OHL) is the extent to which individuals have the capacity to acquire and process basic oral health information and services needed to make health decisions appropriate.²¹

Discussion

Health literacy has been defined as the degree to which an individual can understand, manage, and understand health care and service information including the ability to make decisions to maintain health.¹⁶ Health literacy has three components¹⁷: a. functional (ability to read and write), b. communicative/interactive (cognitive capacity to understand information), c. critical (ability to critically analyze the information received and use it to improve control over life events).

The results of the research by Reza Yahzani, et al showed that parents had higher OHL significantly correlated with a lower DMFT index in their offspring. Also, OHL higher levels of parents resulted in significant improvements in health behaviors their own mouths. Parents with inadequate OHL have less behavior both in terms of toothpaste use, time of last dental visit, and smoking status.²⁰

Parents play an important role in early intervention to prevent caries in children, early education for children since the first tooth erupts is crucial in overcoming it early childhood caries. Parents' awareness and knowledge need to be increased so that they care about status dental and oral health of their children.²¹ The study conducted by Rachmawati et al (2022) demonstrates similar results, indicating a relationship between parental oral health literacy and the dental health of their children, and that maternal health literacy has a role in children's caries experience.²²

The results of AG Brega's research (2016) also states that health literacy is significantly related to knowledge and behavior, so parents with better health literacy have a higher level of knowledge higher dental and oral health and comply with dental and oral health behavior recommended greater than parents with literacy scores. lower health (p < 0.0001).²³ The results of Gharlipour's research (2016) also show that there is a positive and significant relationship between mother's behavior and oral health with perceived usefulness and self-efficacy (r=0.16, P<0.05, r=0.20, P<0.05).²⁴ Hamid's research in 2022 also revealed a significant correlation between maternal knowledge and behavior concerning oral and dental health, he found that the positive attitudes and endeavors of mothers towards their children's oral and dental well-being

in Blitar reached a notable rate of 75 percent.²⁵ This is also supported by the research conducted by Bramantoro et al (2018), which states that a mother's perception of susceptibility to dental caries and related risks has a significant correlation with the mother's attitude towards children's dental health.²⁶

Research conducted by Vichavanrat et al (2015) said that due in part most of the mothers in this study were highly educated, most likely they were looking for information health routinely.¹⁶ Other aspects of OHL include basic OHL such as word recognition, communicative OHL such as understanding and the ability to explain to others, and critical OHLs such as the ability to justify credibility or reliability information was found to be significantly related to the child's caries status. Because they requires higher skills than searching for information¹⁶ and agree with the results of research from Khodadadi et al (2016) revealed that OHL people Inadequate parenting is associated with high child dental caries and fillings that do not adequate. The regression model, however, confirmed a significant relationship between OHL filling of parents with low literacy who control the family.²⁷

Conclusions

Several studies have shown that OHL increases in the elderly it seems improve the DMFT index and oral health behavior of themselves and their children. Therefore, a program to increase parental health literacy is needed to improve children's dental health, this must also be supported by the ability to read, write, understand information and think critically to sort out existing information.

Declaration of Interest

The authors report no conflict of interest.

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