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## **The Social Behaviour of Pregnant Mothers and the Mothers of Children under Five in Relation to their Children's Dental Health and Growth**

By Thalca Hamid<sup>1</sup>, Satiti Kuntari<sup>2</sup>, Naila Marzuqi<sup>3</sup>, Mutia Fauziah<sup>4</sup>

### **Abstract**

The focus of the research is whether there is a relationship between the behaviour of pregnant mothers and the mothers of children under five and their children's dental health and growth. This is in addition to any predisposing, enabling and reinforcing factors. This study is intended to reveal the following two key points: 1) to identify the level of knowledge of pregnant women and the mother of toddlers about oral health in children under five and 2) to identify effective models of empowerment for pregnant women and the mothers of toddlers to prevent dental and oral cavity diseases in the low-income communities of East Java Province. This research is a quantitative study with a cross-sectional study approach. The number of subjects totalled 300 people. The criteria of the subjects were that they were pregnant women or the mothers of children under five of a middle to lower socioeconomic status. This study revealed that the knowledge factor of the pregnant women and the mothers of children under five regarding the children's dental health is not directly related to the behaviour of the mothers regarding the health of their mothers and children. Likewise, the enabling and reinforcing factors do not directly affect the behaviour of the mothers. These 3 factors (predisposing, enabling, and reinforcing), when added together, will result in maternal behaviour.

**Keywords:** Women's Empowerment Model, Maternal Health, Children's Dental Health, Protection of Women, Children and Family Empowerment

### **Introduction**

*Early Childhood Caries (ECC)* is the most common dental health problem in infants and toddlers, which can affect the health and development of the child. The prevalence and severity of dental caries in children under 5 years of age in some countries is quite high. In Indonesia, the prevalence of caries in children aged 3-5 years has continued to increase. Based on the *Required Treatment Index (RTI)* in the East Java Province, it shows that the prevalence of children aged 1-12 years who suffer from active caries is 66.7% while those that are caries-free is 33.3%.

One of the factors causing the high incidence of dental caries in preschoolers is the lack of the ability of the children to clean their teeth and mouth well and their daily dietary patterns.

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In this context, the role of the parents, especially the mothers, is very important in maintaining and improving their child's oral health. Maternal behaviour plays an important role in implementing and modifying the oral health practices of children (Kang, Ahn and Kim, 2017). The oral and dental health of preschoolers is the responsibility of the mother so the mother is therefore expected to have good behaviour so then their child can imitate their mother's behaviour. Preschool children usually adopt the behavioural habits of the people around them. Therefore, starting good oral health habits is important. Dental awareness has an important impact on oral health behaviour and the oral health of children.

Parents, especially mothers, will instil habits in their children based on their knowledge, attitudes and beliefs. Maternal behaviour is influenced by various factors including attitude, knowledge, socio-economics, social demographics, and other supporting factors (culture, environment and health personnel facilities) (Sujlana and Pannu, 2015). If the mother has good knowledge, then their child will have good oral health because they can apply caries prevention strategies at the right time. The concept of maternal behaviour related to oral health will also be adopted by the children as a guideline for them to carry on into adulthood. Even if the child has grown into a teenager, the mother is still an important mediator in developing behaviours related to dental and oral health. Therefore, the role of the parents, especially the mothers, is important during childhood and adolescence in terms of maintaining oral health.

Tooth growth and development starts from the age of 6 (six) weeks into the pregnancy, so the mother's pregnancy and the childbirth period can have influence on the emergence of early childhood caries. The pregnancy abnormalities experienced by pregnant women, for example anaemia, malnutrition etc. can affect the child. In addition, the selection of drugs given during pregnancy is also very important because it is known that the consumption of drugs during pregnancy can cause dental abnormalities and poor management. To get the best results in an effort to optimise the process of growth and development of the teeth since pregnancy, the role of the mother in maintaining her pregnancy is very important. For this reason, pregnant women should know and get the correct information about things related to the growth and development of dental seeds since the start of their pregnancy.

Research shows that the health of the mother's mouth and regular dental visits has a significant relationship with the dental health of their toddler. Furthermore, there are studies that have also proven that there is a relationship between maternal behaviour and poor dental health, resulting in bad behaviour in their children. The promotion of the maintenance of teeth and oral cavities to pregnant women is important for the maternal and child's health status, as many pregnant women are less concerned about the health of their teeth and oral cavity.

The Ministry of Health of the Republic of Indonesia (2016) has the target of all Indonesian children aged 12 years being free of caries (cavities) by 2030. This decision has received support from the government, the private sector, and the community. The first step in realising a caries-free Indonesia by 2030 is to take steps to prevent cavities in children. There are many cases of patients coming to the child's dentist practice with the condition of swollen cheeks, difficulty eating and a lack of sleep. Especially for children, it can interfere with growth, development, and their learning routines. Children become lazy in their learning because their concentration wanes. There are also cases of children having a toothache where the bacteria then spreads to the blood vessels, with a fatal result. Parents should pay more attention to their children's dental and gum health from infancy. The delay of patients checking their dental and oral health condition is evidence of the lack of socialisation regarding the importance of maintaining dental and oral hygiene. Severe conditions can be prevented by checking the teeth

regularly at least once every 6 months. There are many factors behind why only a few people pay attention to their dental health. One of them is the lack of education levels, in addition to the economic and financial factors in the internal community.

Children in families with low socioeconomic status have a higher caries prevalence compared to children in families with a high socioeconomic status. Parents with education levels no higher than senior high school and with a low economic status have been shown to have poor knowledge and a low perception of oral health. Low socioeconomic groups cannot use tools to support their oral hygiene (mouthwash, interproximal brushes, and toothpaste) because it requires a higher cost. Having a higher economic status provides access to all oral health tools. Economic status in underprivileged communities influences the degree of education, lifestyle health, access to health information, and the fulfilment of going to the health facilities. Low socioeconomic status can increase the risk of dental disease in a child's mouth. (Reisine, S. T, 2001, Bahvna T. 2005, Kadtane S.S. 2014, Prakash, P. 2012). Children who come from low-income families do not pay attention to their dental and oral health and they do not go to routine checks at the dentist. This can have an impact on caries development. In addition, an inadequate intake of nutrients can also have an impact on children's caries. (Sald, K. 2014)

The health services for people in Indonesia are carried out by a service unit called the Community Health Centre. The programs for maternal and child health serving pregnant women, the mothers of children under five and their children integrate dental and oral health promotive, preventive, curative, and rehabilitative treatment while prioritising the improvement and maintenance of health and disease prevention. Disease prevention activities also require health resources, so the regulation and distribution of the health facilities themselves is very important. Health services that are too concentrated in urban areas are not good for the health services overall. (Mubarak W.I. 2012, Anies, 2016)

This study assessed the behaviour of pregnant mothers and the mothers of children under 5 years old toward their children's dental health and growth in three areas, namely Purworejo Village, Wates District, Blitar Regency; Temoran Village, Omben District, Sampang Regency; and Sidotopo Village, Semampir Subdistrict, Surabaya Municipality. These three areas were chosen because they are considered to be poor areas. The average mother's education was that of junior high school and they had an average family income of approximately 1 million per month.

The behaviour of a person or society about health is determined by predisposing factors: knowledge, attitudes, and beliefs. Enabling factors are in the form of facility availability and reinforcing factors are in the form of support from health officials, families and community leaders on dental and oral health so as to strengthen the formation of a particular behaviour (Green LW, 1991).

*Predisposing factors* consist of knowledge, attitudes, and beliefs. Knowledge consists of a number of facts and theories that allow someone to understand a phenomenon and to solve the problem that they face. Knowledge can be obtained from the experiences of others conveyed to him, such as from books, friends, parents, radio, television, posters, magazines and newspapers. Attitude is a person's closed response to a particular stimulus or object, which involves the factors of opinion and emotions, for example agree-disagree, happy-unhappy, neither good nor so on. The health behaviour of a person usually has a tendency to be influenced by trust, so changing the behaviour needs the concept of *knowledge-attitude-practice*.

*Enabling factors* include the availability of advice and infrastructure that supports the realisation of behaviour, accessibility, and the ease of accessing the health services in terms of distance, cost and socialisation.

*Reinforcing factors* are the factors that make changes in a person's behaviour due to family support, community leaders or health workers.

The focus of the research problem is seeing if there a relationship between the behaviour of pregnant mothers and the mothers of children under five and their children dental health and growth. We also sought to examine what the obstacles and opportunities are to improve this knowledge and the ability of mothers to prompt them to take action to prevent dental and oral disorders in their children.

The research objectives involved mapping the source of knowledge of pregnant women and children under five about the dental health of their toddlers and analysing the barriers and opportunities to increasing the knowledge and ability of the mothers. This concerns taking on preventive measures related to dental and oral disorders in children.

## **Method**

This research was a quantitative study with a cross-sectional approach. The study subjects were sampled randomly from the study site during the period May to August 2018. The number of respondents was 298 people with the characteristics of being pregnant women and / or mothers of children under five of a middle to lower socioeconomic status. The study locations were Purworejo Village, Wates District, Blitar Regency, Temoran Village, Omben District, Sampang Regency, and Sidotopo Lor Village, Semampir Subdistrict, Surabaya City.

The research instrument used involved questionnaires with each individual statement filled in independently by the respondents. The questionnaire was designed to analyse the behaviour of pregnant women and / or mothers of children under five related to the management of their children's dental health. The theoretical basis used was based on Lawrence-Green's behaviour theory, wherein the theory explains that a person's behaviour (Bf) will emerge as a function of the supporting factors such as the predisposing factor (Pf), enabling factor (Ef), and reinforcing factor (Rf).

From the total number of questionnaires, as many as 88 items were divided into a 30-item statement questionnaire which aimed to assess the needs of the respondents related to the predisposing factor (Pf). This included statement aspects such as basic knowledge, beliefs, values, and the attitude of the respondents about managing their independent dental health and their children. The next 30 items contain questionnaire statements that aim to assess the needs of the respondents regarding the enabling factors (EF), with aspects of the questionnaire statements including the facilities provided at home, family participation, financial condition and the socio-economic abilities that contribute to the management of independent dental health and that of her child. The next 28 items for the last questionnaire statement incorporated statements that examine the needs of the respondents related to the reinforcing factor (Rf) with aspects of the questionnaire statement in the form of social health support that plays a role in the management of independent dental health and those of their children, especially from the medical aspects (in this case, in the form of a Community Health Centre program or a history of obtaining medical services at a health service installation). The results of the study using this instrument will show whether the behaviour of the pregnant women and/or mothers of children under five years related to the management of children's dental health is correct or if they still need help and support to be right.

After the questionnaires were filled out, the behavioural supporting factors were recapitulated through coding techniques. The descriptive data were analysed in order to see the

distribution of the data globally related to the needs of the respondents based on the Lawrence-Green theory. Furthermore, each behavioural supporting factor was tested using a correlation test via SPSS.

As a form of enrichment discussion, this study also carried out in-depth interviews purposively with 10 respondents to trace the pattern of the management of pregnant women and/or the mothers of children under five related to the child's dental health. The respondents included in the in-depth interviews were dentists, medical staff from the *puskesmas*, *posyandu* cadres, *paud*, and the Village Bureaucracy.

## Results and Discussion

This chapter will describe the analysis of the behaviour of the pregnant women and mothers in a region who will be used to conclude on the results of the research on the factors that are predisposing, enabling and reinforcing. These results were obtained from the answers to 88 questions completed 298 respondents. The predisposing factor category involved 30 questions with the categories of understanding (+) and a lack of understanding (-) while the enabling factor involved 30 questions with good (+) and bad facility (-) categories. Reinforcing factors involved 28 questions with both good encouragement categories (+) and less (-) push categories. There were 298 respondents in the three regions, namely Sidotopo Lor Village, Semampir Subdistrict, Surabaya City, Temoran Village, Omben District, Sampang Regency, and Purworejo Village, Wates District, Blitar District.

A predisposing factor is a factor that determines the knowledge of mothers about the dental health of pregnant women and the health of their toddlers, including dental health. After categorising, it turns out that the number of mothers who understand the dental health of themselves and their children is quite large. The number of mothers who do not understand is much smaller. Some of the factors that influence the predisposing factors include maternal education, knowledge and an attitude of trust.

The average number of respondents who answered the questionnaire (enabling factor) showed that the number of respondents' that was above average is included in the positive category, namely referring to the respondents who know about infrastructure. Those who were below average were included in the negative category. The enabling factor questionnaire describes the dental health facilities and infrastructure as well as the affordability of the health services (distance and cost).

Furthermore, the number of respondents who answered the questionnaire (reinforcing factor) allowed it to be found that the number of respondents above was included in the positive category while those who were below average were included in the negative category. The reinforcing factor questionnaire illustrates the support of the health care workers, families and community leaders.

**Table 1**

The Number of Respondents in Sidotopo Lor Village, District Semampir City Surabaya, Temoran Village, Omang District, Sampang Regency and Purworejo Village, Wates District, Blitar Regency.

Location	Total
Sidotopo Lor Village, Semampir Subdistrict, Surabaya City (research date 14 <sup>th</sup> – 15 <sup>th</sup> August 2018)	115
Temoran Village, Omang District, Sampang Regency (research date, 26 <sup>th</sup> – 27 <sup>th</sup> May 2018)	83
Purworejo Village, Wates District, Blitar Regency (research date 30 <sup>th</sup> – 31 <sup>st</sup> May 2018)	100
Total	298

*The behaviour of pregnant women and children under five in each of the three research areas is the result of the analysis of the respondents' answers about the factors of knowledge, enabling and reinforcing. This is focused on the dental health of the pregnant women and toddlers and their dental health.*

**Table 2**

Behavioural factors of the pregnant women and the mothers of children under five regarding maternal and child dental health in Sidotopo Lor – Surabaya

		SURABAYA (115 samples)	
<b>PREDISPOSING FACTOR</b>	Positive (+)	93 persons	80.8%
	Negative (-)	22 persons	19.2%
<b>ENABLING FACTOR</b>	Positive (+)	43 persons	37.4%
	Negative (-)	72 persons	62.6%
<b>REINFORCING FACTOR</b>	Positive (+)	56 persons	48.7%
	Negative (-)	59 persons	51.3%
<b>BEHAVIOUR</b>	Good	33 persons	28.7%
	Bad	82 persons	71.3%

The results of the study were inclusive of 115 respondents in Sidotopo Lor Subdistrict, Semampir Subdistrict, Surabaya City. For the predisposing factors, the percentage of respondents who understand maternal and child dental health (80.8%) was far higher than those who did not understand (19.2%). Meanwhile, the enabling factor that helps them to know about the facilities and infrastructure of health facilities showed that the answer for good facilities (62.6%) was lower than the answer where the facilities are not good (37.4%). It is likely that the Puskesmas have not been properly socialised or the respondents do not know in full about the existing facilities at the Puskesmas. For the reinforcing factor, the answers of the respondents who answered about good encouragement (48.7%) were balanced with the answer regarding poor encouragement factors (51.3%). The reinforcing factor is influenced by the support of the health care workers, their families and the community leaders. Therefore, the results obtained from

these three factors show that the percentage of good mothering behaviour (28.7%) is lower than the percentage of bad behaviour (71.3%).

**Table 3**

Behavioural factors of pregnant women and mothers of children under five about maternal and child dental health of toddlers in Temoran Village – Sampang

		SURABAYA (115 samples)	
<b>PREDISPOSING FACTOR</b>	Positive (+)	46 persons	55%
	Negative (-)	37 persons	45%
<b>ENABLING FACTOR</b>	Positive (+)	38 persons	46%
	Negative (-)	45 persons	54%
<b>REINFORCING FACTOR</b>	Positive (+)	41 persons	49%
	Negative (-)	42 persons	51%
<b>BEHAVIOR</b>	Good	40 persons	48%
	Bad	43 persons	52%

For Temoran Village, Omben District, Sampang District, the percentage of balanced predisposing factors was that those who understand about child dental health was 55% compared to those who lack an understanding at 45%. This shows that only about 55% understand about the health of their mothers and children. To enable the factor related to the respondent's answers about health facilities, the answer was fairly balanced between the respondents' answers about good facilities (46%) and those that are not good (54%). This shows that health facilities, especially those focused on teeth have not been utilised properly by the mothers or there is a lack of socialisation by the health facilities. To reinforce the factors in Temoran Village, Omben District, Sampang District, a good environmental drive is balanced with poor support. It is possible for the health team and health cadres to not socialise this matter. The behaviour of mothers in the area was that they partly behaved well on dental and child health, but some also still behave badly.

**Table 4**

Behavioural factors of the pregnant women and the mothers of children under five about maternal and child dental health, including toddlers in Purworejo Village – Blitar

		SURABAYA (115 samples)	
<b>PREDISPOSING FACTOR</b>	Positive (+)	54 persons	54%
	Negative (-)	46 persons	46%
<b>ENABLING FACTOR</b>	Positive (+)	47 persons	47%
	Negative (-)	53 persons	53%
<b>REINFORCING FACTOR</b>	Positive (+)	52 persons	52%
	Negative (-)	48 persons	48%
<b>BEHAVIOR</b>	Good	47 persons	47%
	Bad	53 persons	53%

For Purworejo Village, Wates District, Blitar Regency, the predisposing factor was quite balanced. The answers of the respondents who understood the knowledge about children's dental health was 54% while the percentage of those who lack an understanding was 46%, illustrating that some of the mothers already understand the knowledge related to maternal and child dental

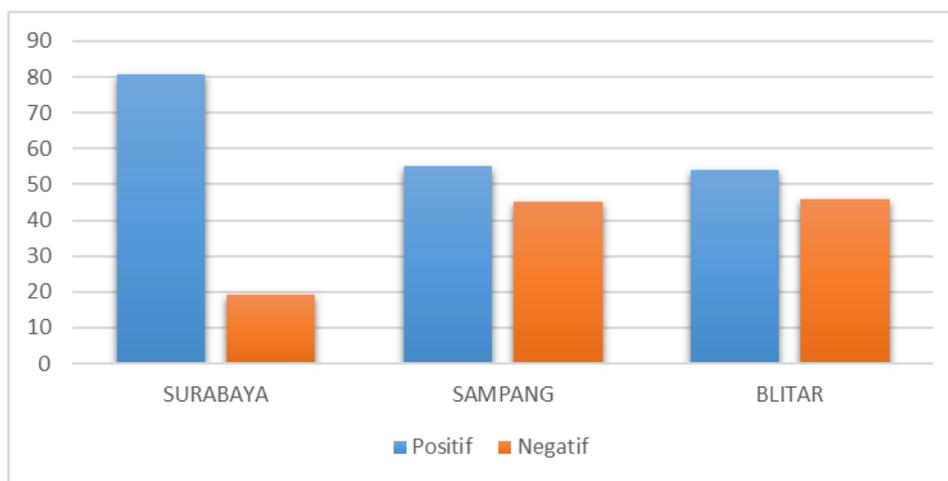
health. Only 47% do not understand about facilities and infrastructure (53%). Furthermore, for the reinforcing factor, the encouragement to understand maternal and child dental health (52%) is greater than the driving factor of maternal and child dental health (48%). The behaviour of the mothers in Purworejo Village, Wates District, Blitar District was poor at 53%, which is slightly higher than the percentage for good (47%).

*We conducted a comparison of the knowledge of the pregnant women and the mothers of infants in all three regions, in addition to a comparison of the enabling factors in the three regions, a comparison of the predisposing factors in the three regions and a comparison of the behavioural factors in the three regions*

From the results of research on the behavioural factors of the pregnant women and the mothers of toddlers on the health of their toddlers' teeth, the enabling and reinforcing factors were examined in three areas, namely Sidotopo Lor sub-districts, Semampir District, Surabaya Municipality and Temoran Village, Omben District, Sampang District and Wates Purworejo Village Blitar Regency. The number of respondents from Sidotopo Lor Surabaya District was 115 samples, for the Village of Temoran-Sampang there were 83 respondents and the village of Purworejo - Blitar obtained 100 respondents.

**Figure 1**

The Predisposing Factors Related to Pregnant Women and the Toddlers' Mothers about the Children's Dental Health in Three Regions: Sidotopo Lor Sub-district Semampir City of Surabaya, Temoran Village Omben District Sampang Regency and Purworejo Village Wates Blitar Regency.



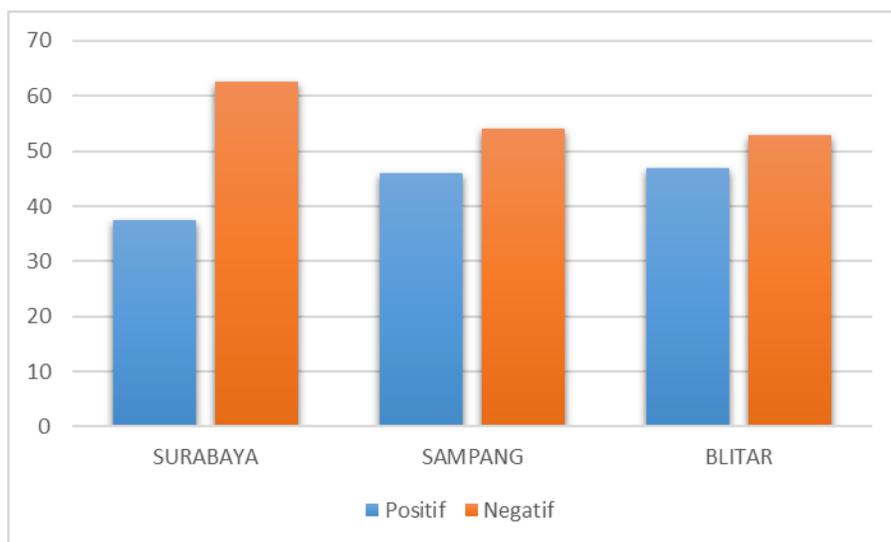
From the results related to the predisposing factors in the three regions in Semampir Sub-district, Sidotopo Lor Village, Surabaya City through to Temoran Village, Omben District, Sampang Regency and Purworejo Village, Wates District, Blitar Regency, it was found that the knowledge of pregnant women and toddlers in Sidotopo Lor - Surabaya Kelurahan had significant differences. The predisposing factors in Kelurahan Sidotopo Lor - Surabaya had a good result of 80.8% while for the bad, the total was 19.2%. This shows that the knowledge about children's dental health is quite high. This is possible because Surabaya is the second

largest city in Indonesia, so the information about dental health through social media is more communicative. According to the interviews conducted with the health service (Puskesmas), the staff come to the field once a week. The counselling involved the medical team from the health service (puskesmas), village official, village women's organisation, health workers and the PKK (family wealth fare and empowerment) team. The predisposing factor for Temoran Village, Omben Subdistrict, Sampang District (55%) shows that the percentage of the respondents 'answers where they understood about the dental health of mothers and children was almost the same as the percentage of the respondents' answers from Purworejo Village, Wates Subdistrict, Blitar Regency (54%). This was possible because the village of Temoran - Sampang and the Village of Purworejo – Blitar are far from the centre of the City.

For Temoran Sampang Village, the percentage of the respondents' answers was positive at 55% and negative at 45%. This was probably because the location was farther away (located outside of Java), so there was less information available compared to in Surabaya. Dental health workers from Puskesmas are less likely to visit the population, even though the information from the Puskesmas rarely provides counselling to the pregnant women in addition to dental health checks on the toddlers. For Purworejo Village – Blitar, the predisposing factor is also lower than it is in Surabaya (positive at 54% and negative at 46%). This is possible because the village is far from the centre of Blitar Regency, so the information is also less. Dental health workers are also low in number because there are only auxiliary health centres. When compared to the predisposing factors in the three regions, the knowledge of the pregnant women and the mothers of children under five on the children's dental health in the Sidotopo Lor-Surabaya area is much higher than it is for the mothers in Temoran - Sampang Village and in Purworejo - Blitar Village. For the Temoran-Sampang and Purworejo-Blitar regions, the number of respondents who understood about dental and child health was quite balanced with those who did not.

**Figure 2**

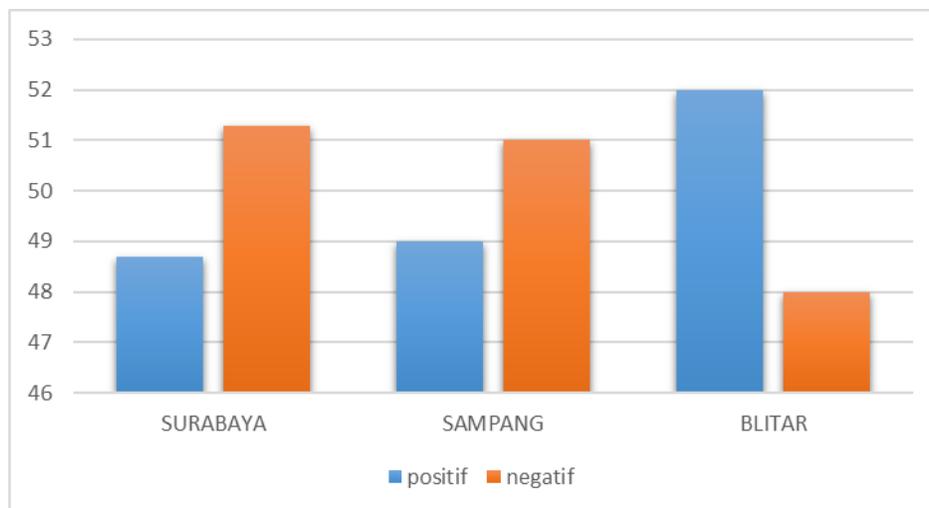
Enabling Factor of the Pregnant Women and Children under Five about the Health of their Children's Teeth in Three Regions: Sidotopo Lor Village, Semampir Sub-district, Surabaya City, Temoran Village, Omben District, Sampang District and Purworejo Village, Wates District, Blitar District.



For the enabling factors, namely the dentistry infrastructure and facilities and the ease of reaching said health facilities, the results of the study show that the respondents' answers in the three regions were as follows: Sidotopo Lor Sub-District, Semampir Sub-District, Surabaya City was 62.6% negative, and 37.3% positive. Temoran Village, Omben Subdistrict, Sampang Regency and Purworejo Village, Wates Subdistrict, Blitar District were also measured. It turns out that Sidotopo Lor Sub-District, Semampir Subdistrict, Surabaya Municipality, was the highest in terms of not ideally recognising dental health facilities and infrastructure. Even though Temoran Village, Omben Subdistrict, Sampang Regency and Purworejo Village, Wates Sub-District, Blitar District also did not recognise health facilities, they were still better than Sidotopo Lor - Surabaya. The busy life in a city means that a lack of understanding of the health facilities (Puskesmas) is easily possible. There is a lack of sufficient PKK cadres to continuously pay attention to and deliver the children's dental health so then the facilities available at the health facilities cannot be used optimally. There needs to be sufficient time for the pregnant women and toddlers to take the time to check their teeth at the health centre. For Purworejo Village Blitar, which is located far from the city centre and throughout the research year, there were only sub-district health centres available. The results of the respondents' perceptions of poor outcomes were still higher. The negative results (53%, with 47% positive) also showed that the respondents were not aware of the existence of the health facilities.

**Figure 3**

Reinforcing Factor in the Pregnant Women and the Toddlers' Mothers about the Children's Dental Health in the Three Regions: Sidotopo Lor Sub-district in Semampir City of Surabaya, Temoran Village Omben District in Sampang Regency and Purworejo Village Wates in Blitar Regency.

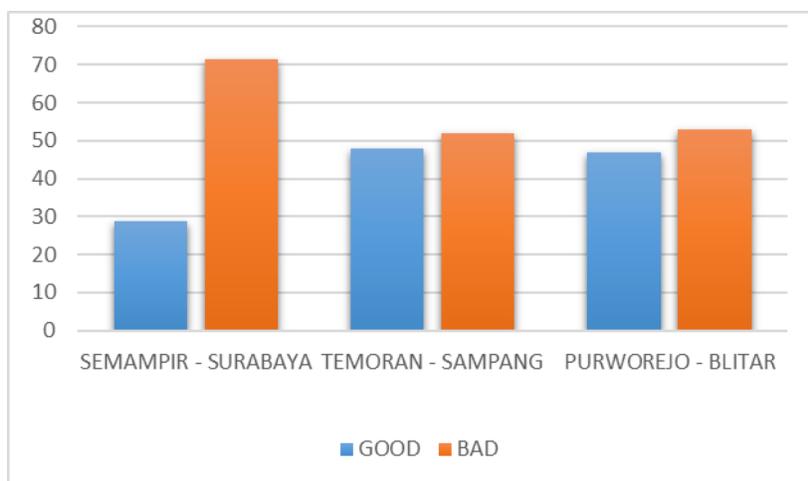


The results of the research on reinforcing factors in the three regions turned out to be in the Sidotopo Lor, the overall area Semampir City of Surabaya (negative 51.3% and positive 48.7%) and Temoran Village Omben District in Sampang Regency (negative 51% and positive 49%). There was still a lack of encouragement supporting the pregnant women and toddler mothers from the environment. Regarding the reinforcing factors where the environment encourages the mother to understand about children's dental health in the Sidotopo - Surabaya area, there was a negative result of 51, 3% while the positive factor is 48.7%. It can still be said to be balanced. This shows the role of the environment (the husband, mother and the children)

results of giving attention and supporting and supporting mothers in caring for their children's teeth. In Temoran – Sampang, the support for pregnant women under five is still balanced; positive at 49% and negative at 51%. This is also due to the busy life of the family unit that is not yet able to deliver support related to the maternal dental examination. For Purworejo Village – Blitar, the encouragement related to the health of the mothers and children was answered by the respondents (52% positive and 48% negative). Conclusions from the three regions showed more support for the pregnant women and toddlers for dental and maternal health. This is supported by qualitative data as conveyed by the informants: "...if we have a toothache, we go to the city because there is no dentist in this village."

**Figure 4**

The behavioural Factors of the Pregnant Women and Toddlers' Mothers regarding Children's Dental Health in Three Regions in Sidotopo Lor Sub-district in Semampir City of Surabaya, Temoran Village Omben District in Sampang Regency and Purworejo Village Wates in Blitar Regency.



The mother's behaviour was assessed/analysed based on these three factors. The mother's behaviour is an illustration of the predisposing, enabling and reinforcing factors. It turned out that in relation to the condition of the Sub-district of Sidotopo Lor, Semampir, City of Surabaya, the behaviour of the pregnant women and the mothers of children under five and their health, the answers of the poor respondents (71.3%) were far higher than the higher income respondents (28.7%). Temoran Village, Omben District and Sampang Regency (48% and 52%) are still balanced, as are Purworejo Village, Wates District and Blitar Regency (47% and 43%).

Maternal behaviour is one of the factors that influences the high number of dental and oral diseases in children. This can be influenced by several factors, one of which is maternal behaviour. Children's oral and dental health has an important role in relation to the growth and development of children in general. Green behaviour according to Green is influenced by three interrelated factors types, namely *predisposing*, *enabling*, and *reinforcing*.

*Predisposing factors* are the factors that facilitate the occurrence of a person's behaviour. In this case, knowledge, attitudes, beliefs, values, traditions, and so on. The results of the questionnaire showed that most of the mothers in Semampir District (80.8%) had a fairly good level of predisposing factors.

In total, 19.2% of mothers still lack an understanding of the dental health of mothers and children. This might be because Surabaya is the second largest city in Indonesia. Therefore, the information about health that is often received from social media, health cadres and social organisations is advanced. Often mothers and the community in big cities receive education about dental health from the health team / from the Puskesmas or volunteers/students from tertiary institutions.

However, good knowledge and beliefs cannot make a mother behave well if the mother does not take a concrete action to maintain the health of her child's teeth. From a biological point of view, the level of knowledge of the mother does not have a direct influence on childhood caries. The level of one's ability to obtain and understand health information can be presented by the level of knowledge. The better the level of one's understanding of the available health information, the better the level of one's knowledge.

*Enabling factors* are the abilities and resources needed to enable health behaviours, consisting of the facilities and infrastructure or health facilities available (the adequacy of medical devices at home, the adequacy of nutritious food, the facilities of the health workers and the local health centres). Most of the mothers who live in Semampir District have a low income levels so the fulfilment of the use of the facilities and routine visits to the dentist are not prioritised. A total of 72 mothers (62.6%) had a low score for the enabling factors. From the results of the questionnaire, as many as 60% of mothers find it difficult in terms of financing when checking their health. The same thing was also found in the other questionnaire answers; as many as 73% of mothers had difficulty completing their financing if there were no BPJS / Jamkesmas / JKN / KIS available. In addition, the lack of health facilities can also be known based on the results of the questionnaire, as as many as 62.6% of mothers had never seen a health centre/health facility when conducting counselling related to dental health.

*Reinforcing factors* are the factors that encourage or reinforce the behaviour. A total 51.3% of parents had a low booster factor percentage. Based on the statistical tests, the relationship of maternal reinforcement factors to the DMF scores of the children aged 3-6 years in Semampir Sub-district from the results of the questionnaire showed that 82.6% of mothers included people living in families (children / husbands etc) who were not too diligent at cleaning / doing dental care. In contrast, 77.3% of mothers said the people around him became role models in behaving diligently brushing their teeth. This proves that the lack of encouragement from the family is related to forming good maternal behaviour when maintaining the oral health of their children.

Mother behaviour is formed by *predisposing, enabling, reinforcing factors*. From these three factors, it can be concluded that the influence of maternal behaviour on oral and dental health had an impact on the children's DMF scores. A total of 71.3% of mothers had poor dental health behaviour based on a statistical test conducted on the relationship between the behaviour of mothers and the DMF scores of the children aged 3-6 years in Semampir Sub-district.

Based on this study, maternal behaviour in terms of the predisposing factors and reinforcement was good. However, the enabling factors were still low, resulting in a high DMF score. This is in accordance with Lawrence Green's theory which states that in order to shape maternal behaviour, three factors are needed; predisposing, enabling, and reinforcing factors. They are mutually supportive. If one of the factors is not fulfilled, then it will become an obstacle for the mother to behave well in terms of maintaining the health of their child's teeth and mouth. This results in high children's DMF scores.

From the results of the in-depth interviews with the 10 respondents representing the medical team (from the Puskesmas, village midwives), PKK mothers and the village ranks in each region, there were several obstacles to empowering the pregnant women and the toddlers' mothers related to maternal dental health. and that of their children, namely in areas farther away from the city centre. This is related to the lack of health workers needed to socialise the health of the child's teeth. In areas closer to the city, the constraints for the socialisation were also constraints due to the busy schedule of the working mothers. There was less time for them to attend the socialisation, even for them to go to the health facilities. In terms of the children's dental health especially, prevention factors are the main thing to prevent abnormalities occurring in the child's oral cavity. The mother and child's dental health counselling was received enthusiastically, and the mother was very responsive. Therefore, routine socialisation needs to be carried out and it is possible that it has been carried out locally.

## **Conclusion**

Behavioural factors are a combined picture of the predisposing factors, enabling factors and reinforcing factors. Each factor (predisposing, enabling and reinforcing) does not directly describe the behavioural factors. In areas where there is a high knowledge about maternal dental health, there are still obstacles to good behaviour. If the three factors are balanced, then the behaviour of the mother can also illustrate how the condition of the mother's behaviour towards the health of the child's teeth is also balanced.

The knowledge factor of the pregnant women and the mothers of children under five related to their children's dental health is not directly related to the behaviour of the mothers regarding health. Likewise, the enabling and reinforcing factors do not directly affect the behaviour of the mother. These 3 factors (predisposing, enabling, and reinforcing), when added together, will impact maternal behaviour.

There are some obstacles from the empowerment program for pregnant women and toddlers related to the dental health of the mothers and children, slowing the socialisation process regarding the growth and development of the children's teeth. Some of these obstacles include a lack of healthy human resources for socialisation and the time and duration of socialisation and materials being acceptable for the mothers in the community.

There needs to be a system and ways to optimise the empowerment of pregnant mothers and the mothers of toddlers for the maximum growth and development of their children's teeth/staff in addition to the aid provided by medical team, women's organisations, etc.

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