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## INFLUENCE OF CADRE TRAINING IN INCREASING TOOTHBRUSHING ACTION IN PREGNANT WOMEN

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### ABSTRACT

Problems of dental and oral hygiene are caused by poor dental and oral care. A viable strategy in changing the behavior of pregnant women is through dental hygiene counseling. We present solution for counseling with material which could be heeded by pregnant women. The aim of the research is to improve knowledge, attitude and action to take care of dental and oral hygiene, so that the target can do self-care to dental and oral hygiene. We implemented Research and Development (R&D) method comprising 5 stages, namely, information collection, design and build, expert validation and revision, model test and final model results. This was done with the subject in as much as 50 pregnant women. The sample used a purposive sampling technique. Data were tested using intraclass correlation coefficient and paired sample test. The results show that Primary Health Center cadre training is effective in improving the dental and oral hygiene action in pregnant women.

**Keywords:** training, Primary Health Center, toothbrushing skill

### Introduction

As stated by Global Burden of Diseases Study, it is estimated that dental and oral diseases affect at least 3.85 billion people worldwide<sup>1</sup>. Furthermore, the research shows that dental and oral hygiene problems in pregnant women in Indonesia is as much as 37.9%,<sup>2</sup> one of which is gingivitis in 56.7%<sup>3</sup> and caries in 56%.<sup>4</sup> Poor condition of dental and oral hygiene of pregnant women can impact on premature birth and low-babyweight at birth<sup>5</sup>.

Pregnancy is a natural process for women that involves several changes in body parts, including teeth and mouth. These changes also occur in anatomy, physiology and pathology so that pregnant woman's awareness is important upon taking care dental and oral

hygiene, namely action that include knowledge, attitude and action of pregnant women towards dental and oral hygiene. Since it greatly determines the status of dental and oral hygiene<sup>6</sup>.

Regarding the case, seriousness is needed for dental and oral health workers because some pregnant women have not gained much knowledge and understanding of dental and oral hygiene, thus their gum tissue is susceptible to infection and inflammation of the gums called gingivitis<sup>7</sup>.

Behavior change strategies consist of strength, regulation or punishment and education. One of the behavioral change strategies in pregnant women is through dental hygiene education in the form of counselling

using material delivered. The aim is that the material delivered to be well received by pregnant women<sup>8</sup>. Changes in a person's behavior depend on the level of stimulus received, namely through a simulation game that allows more active participation. By playing the method, this will get rid of solemnity, relieve stress and most importantly is to get participants fully involved in achieving goal<sup>9</sup>.

An effort to improve the dental and oral hygiene of pregnant women can be performed by the innovation of Public Health Care cadre training program, implementing the local wisdom of the game, a Timor-Leste traditional game, which almost played in every area at people feast and grief. *Kuru-Kuru* is made of cube-shaped wood that resembles a dice. There are six surfaces on the six sides given dice one to six. This *Kuru-Kuru* game will be modified into a game model of *Kuru-Kuru* which contains dental and oral medical material for pregnant women to be performed by the UKGM (Community Dental and Oral Care) cadre as an extension media. The implementation of this *Kuru-Kuru* game models are as follows: training, simulation, practice and evaluation.

### Methodology

The method applied in this research is Research and Development (R&D). The aim of this study is to modify *Kuru-Kuru* model game as steps of dental and oral hygiene which was implemented through learning method. In line with the R&D method, the research is one type of research that should be able to produce new product / model. Model must be made innovatively so that learning and educational practices come better<sup>11</sup>.

The main steps of the research and development procedure include 5 stages: 1). information collection, 2). design and build model, 3). Expert validation and revision, 4). Test module, 5). The final result of the model<sup>12</sup>.

### Result and Discussion

#### Result

##### Information Collection

No	Questions	Answers
1	What kind of health problems often occurs in	Dental health problems that often occur in pregnant women are low oral hygiene behavior so that problems that often occur in

No	Questions	Answers
	pregnant women?	pregnant women are gingivitis, dental caries, poor oral hygiene, calculus, bleeding gums easily, swollen gums and bad breath.
2	What is meant by pregnant women and what are their characteristics ?	Pregnant women are mothers who carry the fetus in the uterus and give birth to two or more offspring. Characteristics of pregnant women: The occurrence of hormonal changes and local factors (plaque), abnormalities in the oral cavity, lumps on the gums between 2 teeth and increased plaque due to insufficient maintenance of dental and oral health, thus accelerating tooth decay and feeling lethargic, nausea, vomiting, dizziness and laziness.
3	How is the government policy on the dental and mouth health program for pregnant women being promoted?	Government policy has made efforts to plan development comprehensively in terms of primary, secondary and tertiary services. So that in the field of dental and oral health services is an integral part of the health development planning process. Government policy on the maintenance of dental and oral health for pregnant women is carried out through the following programs: 1). Promotion of dental and oral health in routine health centers 1 X a month and screening 2). Dental and mouth health promotion program at posyandu / SISCa 1 X a month.
4	How are the efforts to provide dental and oral health education to pregnant women in posyandu?	Efforts to provide education for the maintenance of dental and oral health for pregnant women can be through material, information, conveyed that is easy to understand and in accordance with the conditions and education. The media and teaching aids in the form of flipchar and phantom make it easier for the material to be absorbed by practicing brushing teeth through the dipphantom simulation, it will be easier to understand and the games / games media for pregnant women

No	Questions	Answers
		are more active in playing and thinking.
5	What kind of learning process is suitable for pregnant women?	A suitable learning process is given to pregnant women, namely: education in the form of education, increasing knowledge, changing attitudes and behaviors in order to understand better pregnancy, complaints during pregnancy, pregnancy care, childbirth during the postpartum period, family planning, baby care, healthy and nutritious food.
6	What kind of media are used in learning to pregnant women?	Suitable media is given to pregnant women, namely the media used can help and the material is easy to get to convey information to pregnant women and the information provided is easily absorbed so that there is continuity between the information provided by the information provider to the recipient of the information with flipchart extension media, leaflets, videos, phantom props, through games / games the participants are more active in playing and thinking, via the internet and TV.

### Design and Build

Data based on the results of information collected was used in making the design of the model with the following theoretical approaches, namely: Design and modification of Kuru-kuru game model as an effort to improve the action of dental and oral hygiene in pregnant women, i.e. Modification and replication of Notoatmodjo's, Anisa's, and Maher's theory.

### Expert Validation

Table 1 Statistical test of expert validation

Expert Validation*	n	f(%)	P-value
Relevant	3	100	0,003
Irrelevant	0	0	

*\*intraclass correlation coefficient*

The result of expert validation shows the value of 0.003 ( $p < 0.05$ ), meaning that the modification of the Kuru-kuru game model is

relevant or feasible as an effort to improve dental health action of pregnant women.

### Model Test

Table 2 Normality test in pregnant women

Variable	P-Value *
Pregnant women (N=50)	
Pre-test treatment	0,000
Post-test treatment	0,000

*\*Shapiro-Wilk*

The result of normality test of the skill of pregnant women shows the p-value of less than 0.05 so that it can be concluded that the data is not normally distributed. Thus, the non-parametric test was performed.

Table 3 Cadre Compliance towards Training Model implementation\*

	n	f%	p-value
Performed	8	100	0,000
Not performed	0	0	

*\*intraclass correlation coefficient*

The result of the intraclass correlation coefficient p-value is 0000, indicating that the game modification of kuru-kuru as an effort to improve dental hygiene action in pregnant women was carried out by cadres in counselling to them.

Table 4 Effectiveness Test of Paired Data in Pregnant Women

Effectivity test*				
	N	Mean	SD	p-value
<b>Pregnant women action</b>				
Pre	50	5,92	1,158	0,000
post	50	9,54	0,613	

*\*Wilcoxon*

The effectiveness test of data on the action of toothbrushing in pregnant women shows that the p-value of pre-test and post-test is 0.000 ( $p < 0.05$ ), meaning that the game model of kuru-kuru is effective in improving the dental and oral hygiene action in pregnant women.

### Model Result

The result of the research is cadre training module, which is the output from the development of dental and oral health

counselling method for pregnant women at the Maternal and Child Health Center.



## Discussion

Dental and oral hygiene counselling can be provided to Maternal and Child Health Center cadres to pregnant women, through the process of empowering and optimizing the role of cadres. The cadres in Maternal and Child Health Center should be given training first, with the provision of knowledge, attitude, good dental and oral hygiene skill in order to obtain a certain skills that can be transferred to pregnant women<sup>13,14</sup>. Training emphasizes more on practice than theory, namely counselling on dental and oral hygiene in pregnant women, detecting early dental and oral diseases as well as referring the results of early detection to the Primary Health Center<sup>15</sup>.

The practice of toothbrushing was also applied directly on day 1 to 21. It aims at massaging the gums so that the debris can come out. In addition, it is intended to do cleaning between the teeth so that it can improved dental hygiene<sup>16</sup> Those things can occur only if they brush after breakfast and at night before going to bed. Besides, check-up the dental and oral condition to find out problem may happen and possible oral cavity in pregnant women. Good dental hygiene of pregnant women will determine the status of the oral cavity and the health of pregnant women as well as their fetuses<sup>17</sup>.

## Conclusion

The kuru-kuru model game modification as an effort to improve the dental health behavior of pregnant women is carried out by cadres in counseling for pregnant women, the kuru-kuru model game is effective in improving dental and oral hygiene actions for pregnant women, modifying the kuru-kuru model game is relevant / feasible as an effort to improve behavior dental health for pregnant women,

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