



Self efficacy of dental health cadres in making plans for dental health empowerment: in mothers before and during pregnancy

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Abstract

Background: Maternal health needs to be considered in pregnancy because the cause of death of pregnant women globally including Indonesia is still dominated by many main causes, one of which is infection which is a factor in maternal mortality, including infections caused by dental and oral diseases.

Purpose: To analyse the self-efficacy of health cadres in planning for maternal dental health empowerments before and during pregnancy independently.

Methods: This study design was quasi experimental non-equivalent control group design. Researchers conducted initial measurements by conducting a pre-test in the treatment group and the control group. In the treatment group, intervention was given in the form of training by providing a guidebook for the Independence of Dental Health Cadres, while in the control group there was no intervention. The sample size was 70 cadres. The cadres were taken from representatives of each village of Gunung Anyar, Surabaya, with 35 people in the treatment group and 35 in the control group.

Results: There was a change in self efficacy and dental health empowerments planning in the treatment group ($p < 0.05$). Simple linear regression test showed that there was a significant effect of self-efficacy on maternal dental health empowerments before and during pregnancy.

Conclusion: There is a difference in the value of Self Efficacy (Self-Efficacy) between the treatment group and the control group.

Keywords: self efficacy, dental health, cadres, pregnancy, mother

Introduction

Maternal health problems need to be considered in pregnancy due to the cause of death in pregnant women globally including Indonesia. The cause of death of pregnant women in Indonesia is still dominated by many factors, one of which is infection which is caused by oral diseases. Periodontal disease is one of the risk factors for premature and low birth weight babies. A study at 8 public health center in Surabaya in 2019 showed the prevalence of pregnant women with gingivitis was 73% and periodontitis was 36% ^[1]. There are several empowerments to reduce the number of oral diseases, such as series of activities carried out in an integrated, integrated and sustainable manner to maintain and improve the degree of dental health of the community in the form of health promotion, disease prevention, and dental treatment. Dental health services for pregnant women are health services aimed at the unborn fetus in order to optimize growth of fetus and development and prevent congenital abnormalities of the body, especially dento-orofacial ^[2]. One of the prevention empowerments for the above abnormalities is to provide assistance to the mother before and during pregnancy. Mentoring can be done by empowering health cadres. The more an individual (cadre) uses various methods or competencies in solving problems, the more diverse the individual (cadre) has ways to solve problems in the future. This is where one of the characteristics of self-efficacy, that self-efficacy is a competency that is actually still under human control ^[3].

Methods

Quasi Experiment research method with non-equivalent control group design was used in this study. The sampling method in this study used a purposive sampling technique, namely selecting sample grouping based on the area or population area. The sample size was determined using the Slovin formula, with the amounts of 70 cadres. The cadres were taken from representatives of each village of Gunung Anyar, Surabaya, with 35 people in the treatment group and 35 in the control group. Researchers conducted initial measurements by conducting a pre-test in the treatment group and the control group. In the treatment group, intervention was given in the form of training by providing a guidebook for the independence of dental health cadres.

Results

Table 1: Characteristics of dental health cadres in Gunung Anyar District, Surabaya

Characteristics	Treatment Group		Control Group		Total	
	N	%	N	%	f	%
Sex						
Men	0	0%	0	0%	0	0%
Women	35	100%	35	100%	70	100%
Age						
30-39	2	6%	7	20%	9	13%
40-49	9	26%	13	37%	22	31%
50-59	18	51%	14	40%	32	46%
60-69	6	17%	1	3%	7	10%
Education level						
Elementary school	2	6%	2	6%	4	6%
Junior high school	7	20%	7	20%	14	20%
Senior high school	15	43%	17	49%	35	50%
Diploma	6	17%	5	14%	8	11%
Bachelor	5	14%	4	11%	9	13%
Experiences						
Trained	35	100%	35	100%	70	100%
Untrained	0	0%	0	0%	0	0%

Table 1 shows that treatment group and control group consisted of 35 (100%) women and 0 (0%) men. The highest age in the treatment group was 50-59 years by 18 people (51%), while the control group was 50-59 years by 14 people (40%). The highest education in the treatment group was SMA with 15 people (43%) as well as the control group with the highest education being SMA with 17 people (49%). While the number of respondents who have never attended dental health training in both the treatment group and the control group is (100%).

Table 2: The differences of self efficacy and the empowering in respondents before and after intervention

Variable	Treatment Group			Control Group		
	Pre-test (Mean±SD)	Post-test (Mean±SD)	p-value	Pre-test (Mean±SD)	Post-test (Mean±SD)	p-value
Self efficacy	66.40±5.67	91.89±5.58	0.000*	65.73±5.05	65.64±4.82	0.083
Dental health empowerment planning	72±9.96	92±9.07	0.038*	67±9.42	71±8.11	0.000*

*p<0.05, there is significant difference

Based on statistical result in table 2, it was found that $p = 0.00 < 0.05$ in self efficacy of treatment group. It showed that there was a significant change in self efficacy before and after intervention, the intervention that was done on the treatment group has an impact on the occurrence of significant changes in self efficacy. Dental health empowerment planning also showed that $p < 0.05$, there was a significant change in dental health empowerment planning in the treatment group.

Table 3: Effect of dental health cadres in planning of dental health empowerment in pregnant women

Variable	Mean	b	P-value
<i>Self Efficacy</i>	92	-0.046	0.038

Table 3 showed the result of simple linear regression test, it showed that the variable self efficacy obtained p value = 0.038 < 0.05 with the regression coefficient was -0.046 it means that there was a significant effect on the value of self efficacy on Maternal Dental Health Empowerments before and during pregnancy and the regression was in low category.

Discussion

The results of the pretest of the treatment group showed that the components of self-esteem and belief about the ability to change the situation of dental health cadres, were still lacking because they had never received training, so most of the cadres were still unable to answer the questionnaire related to self-esteem and beliefs about the ability to change situations. This result was in line with the research from Febristi in 2020 that self esteem is negative where a person has a lack of confidence in assessing the ability of his attributes, has poor self-esteem, is dissatisfied/uncomfortable with the way he treats others, tends to be pessimistic, sensitive to criticism, helpless. express self-defense (self-coping)^[4].

According to Perdana AJ, 2019, people who lack self-confidence feel less able to achieve their goals, and tend to have a negative view of themselves and what they want to achieve in life. After being given training with the

method, roleplaying, and using a guidebook for the independence of dental health cadres, then a post test was conducted to find an increase in affective/cognitive, high self-esteem, feeling of power and control, confidence to take action, and belief about the ability to change the situation. Because during the training, cadres get Self Efficacy (self-confidence) material in planning activities for maternal dental health empowerments before and during pregnancy, which include village level meetings, introspective surveys and measurable village community meetings ^[5]. In line with research in Miranda, et al 2020, It can be concluded that self-efficacy is an individual's belief that they can do their job as expected. Dental Health Cadres, Increased self-efficacy of dental health cadres can occur because participants have understood the training material provided so that it has an impact on increasing affective/cognitive components, high self-esteem, feeling of power and control, confidence to take action, as well as belief about ability to change situation to increase affective/cognitive, high self-esteem, feeling of power and control, confidence to take action, and belief about ability to change situation ^[6]. This is in line with Bandura in Zagoto Florence 2019, self-efficacy is an individual's belief or belief about his or her ability to organize, perform a task, achieve a goal, produce something and implement actions to display certain skills ^[7]. In the control group there was no significant change in Self Efficacy because the control group was only given counseling about dental hygiene for pregnant women, so it did not show changes in increasing affective/cognitive, high self-esteem, feeling of power and control, confidence to take action as well as belief about the ability to change. This is not in line with Simbolon MA et al, 2019, the results of the Wilcoxon signed rank test and Mann Whitney analysis showed that there were differences in pre-test and post-test scores on knowledge, attitudes, and self-efficacy between the treatment group and the control group ^[8]. This is line with Zabel K, 2022 that The Manova not only showed a significant improvement in self-esteem and depression scores within the intervention group over the course but also in comparison to the control group ^[9]. Self-efficacy plays an important role in the process of goal setting, planning, and behavior. In other words, self-efficacy is not only a determining factor in the motivation phase, but also in the action implementation phase, so that self-efficacy plays an important role in the process of goal setting, planning, and behavior ^[3]. An empowerment that can be done is to provide dental health education on continuous health, using several suitable methods, a combination of mass communication, group communication, and interpersonal communication. Another action is to provide training on the necessary actions in dental health, including empowerments to improve (promotive), preventive (preventive), treatment empowerments (curative) and recovery empowerments (rehabilitative), so that dental health cadres have the ability and confidence to take rational action. The results showed that Self Efficacy has a significant influence on the mother's dental health empowerments before and during pregnancy, this is due to changes in self efficacy so as to provide encouragement to dental health cadres to make dental health empowerments to mothers before and during childbirth, in accordance with cognitive theory. Social Bandura, self-efficacy is a person who influences and is influenced by behavior and the environment.¹⁰ And according to the theory of HL. Blum 1970, in Notoatmodjo, 2018 that the degree of health in this case dental and oral health is influenced by four main factors, namely environment, behavior, health services and heredity. H.L. Theory Blum stated that health status is determined by 40% of environmental factors, 30% of behavioral factors, 20% of health care factors, and 10% of genetic factors (heredity). Social environmental factors, in this case dental health cadres, can influence the maintenance of maternal dental health before and during pregnancy, which is the highest determining factor in improving the health status of the community ^[11]. Self-efficacy determines the confidence of dental health cadres in the ability to mobilize the motivation, cognitive resources, and responses needed, so that they can successfully carry out maternal dental health empowerments before and during pregnancy. Self efficacy is a person's assessment of his ability to perform a task, achieve goals, and produce ^[12]. The characteristics of dental health cadres, the majority of whom are women with an average education of high school, aged between 50-59 years and have received dental health training for pregnant women, will help to approach them to provide counseling on dental health empowerments. Based on the data characteristics of elderly Dental Health Cadres (50-59), high school and already trained. Furthermore, based on some of the definitions above, it can be concluded that Self Efficacy is a cadre's self-confidence in their abilities in carrying out a response that is expected to achieve goals.

Conclusion

In the treatment group there was a change in self efficacy. There was no change in the control group. Several factors that support the increase in Self-Efficacy of dental health cadres in the treatment group, among others, the guide book for Cadre Independence, and training methods and dental health cadres. There is a difference in the value of Self Efficacy (Self-Efficacy) between the treatment group and the control group. In the treatment group, there are several components that can grow the self-efficacy of dental health cadres, namely affective/cognitive, high self-esteem, feeling of power and control, confidence to take action, and belief about ability to change.

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