

## Article

# The Effects of Gedi Leaf on the Labor Process in Women Who Have the Habit of Consuming Areca Nuts

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## A B S T R A C T

Betel leaves and areca nut can form excessive connective or fibrous tissue in the submucosa. At the end of pregnancy, due to aging of the placenta, there is also a decrease in the estrogen which can affect the volume of cervical mucus which is used as an emulsifier for the delivery process to help the elasticity of the vagina and perineum. The purpose of this study was to determine the difference in the duration of labor in the first stage of labor in women with the habit of consuming areca nut with addition of gedi leaves and without gedi leaves. This was a preexperimental research in the form of intact group comparison. A sample of 28 people was divided into the experimental group (which was treated) and the control group (which was not treated). The study was carried out at the Melati Raya Health Center which is an auxiliary health center at the Remu Health Center, Sorong City, West Papua in August-November 2020. The results of the analysis used an independent T test showed a p value of  $0.027 < 0.05$ , meaning  $H_a$  was accepted and  $H_o$  was rejected. It was therefore concluded that the consumption of gedi leaves can accelerate the process of labor in the active phase for those who consume betel leaves and areca nuts at the Remu Health Center, Sorong City.

## I. INTRODUCTION

The tradition of chewing areca nut is generally carried out by older women. However, in Papua this tradition has been carried out since childhood and has been passed down from generation to generation from the older generation to the younger ones. In fact, this tradition has been introduced since the age of seven years and continues until someone gets old and dies. According to a report from the World Health Organization (WHO), consuming betel leaf and areca nut can actually cause cancer that not only affects the mother, but also the baby at birth. The ingredients contained in betel leaf and areca nut can also increase the risk of miscarriage and abnormalities in the fetus. In addition to causing cancer, these two can also form excessive connective or fibrous tissue in the submucosa (Haibunda.com, 2020).

Research conducted by Shrestha, et al (2010) on the effect of the ethanolic extract of *A. catechu* on the duration of different phases of the estrus cycle, ovarian weight, cholesterol levels, and histopathology were studied in rats. During the estrus cycle, many physiological, biochemical, morphological, and histological changes occur in the ovaries which result in disruption of secondary follicle growth, which affects the production of the hormone estrogen and maturation of the corpus luteal.

At the end of pregnancy, due to aging of the placenta, there is also a decrease in the estrogen; this can affect the volume of cervical mucus produced as an emulsifier from the delivery process to help the elasticity of the vagina and perineum. The results of interviews with several implementing midwives at the Sorong City Health Center and Hospital who provided delivery assistance showed that almost all mothers who frequently consumed betel leaf and areca nut experienced a long process or did not like other maternity mothers during the first and second stages of labor. They said that their perineum felt stiff and the process of removing the head tended to be long.

Plants are one of the ingredients of traditional medicine that have been known since long time. The use of traditional medicine has attracted attention and its popularity in our society is increasing. One of the reasons is that the community has accepted and proven the benefits and uses of medicinal plants in health maintenance (Mora and Armon, 2012). The use of natural ingredients, both as medicine and for other purposes, tends to increase, especially with the issue of back to nature. Traditional medicines and medicinal plants are widely used in the lower middle class, especially in preventive, promotive and rehabilitative efforts (Katno, 2009). Meanwhile, many people think that the ingredients for using medicinal plants or traditional medicines are relatively safer than synthetic drugs. Generally, the efficacy of traditional medicines to date is only based on empirical experience and has not been scientifically tested.

In Indonesia itself, medicinal plants have been used by the community for generations since centuries ago. Knowledge of medicinal plants is passed down from one generation to the next through ancestral recipes, local customs and beliefs. Lately there has been an increase in research on herbs and natural ingredients to treat various diseases. The pharmaceutical industry is also trying to find opportunities to use natural ingredients and their derivatives as ingredients

for drugs. In addition, market needs and demands also need to be considered in an effort to find new drugs to significantly cure various diseases.

Gedi (*Abelmoschus manihot* L. Medik) is a tropical plant of the Malvaceae family. Traditionally it has long been known in several areas in Indonesia, especially Papua as a vegetable plant. red gedi leaf (*Abelmoschus manihot* L) is one of the types of plants that are commonly found in home gardens as an ornamental plant as well as a vegetable (Astuty, 2005). In Papua, the red gedi plant (*Abelmoschus manihot* L.) is very well known by the community, because this plant is used as a staple vegetable by the local community.

Based on information from the local community, red gedi plant (*Abelmoschus manihot* L.) can be used as an alternative treatment, namely to lower blood sugar levels, lower blood pressure, facilitate childbirth, and be used as anti-inflammatory, antioxidant, and antidepressant (Suoth, 2013). Gedi leaves are rich in vitamin A, iron and fiber which are good for the digestive tract.

According to Bradley C.S (2007), out of 103 pregnant women starting from the first trimester of pregnancy experience constipation. Bradley's team found that 24% of pregnant women in the first trimester are constipated, 26% are constipated during the second trimester, 26% are constipated during the third trimester and 24% of pregnant women are constipated during the first 3 months after delivery.

The health of the digestive tract has an important role at the time of delivery. When the rectum is filled, it will result in the process of decreasing the lower part of the fetus and the delivery process will tend to be slow. By consuming gedi leaves before delivery, it is hoped that it can help overcome constipation in pregnant women and empty the digestive tract.

Some empirical experience states that red gedi plant can be used as a diarrhea medicine, appendicitis medicine and efficacious to speed up the birthing process. Red gedi leaves, which are boiled without salt, are used to treat several diseases, including kidney disease, ulcers, and high cholesterol. In Papua, the leaves are widely used as traditional medicine after childbirth for pregnant women. The leaves are believed to be able to increase milk production for mothers who are breastfeeding (Plantamor, 2006). The purpose of this study was to determine the difference in the duration of labor in the first stage of labor for those consuming areca nut with addition to gedi leaves and without gedi leaves.

## II. METHODS

This pre-experimental research used an intact group comparison, i.e., there was one group used for research, but divided into two namely half for the experimental group (which was treated) and half for the control group (which was not treated). The sample for the control and treatment group was each 14 mothers who had the habit of consuming betel leaves and areca nut. The research was carried out at the Melati Raya Health Center which is an auxiliary health center at the Remu Health Center, Sorong City, West Papua in August-November 2020. The provision of gedi leaves in the form of vegetable food was boiled without using salt and consumed by the mother before delivery at least one week before the estimated delivery. Gedi leaves were given as much as 400 grams/day based on the amount of fruit and vegetable consumption recommended by WHO for humans. Measurement of the labor process was assessed based on the process of expelling the products of conception (fetus) who had been at term with maternal labor assessed from the first stage of the active phase.

### III. RESULT

The research was carried out in the working area of the Remu Health Center, Sorong City, precisely at the Melati Raya Sub-Health Center with 29 mothers who had given birth for the first time and had a habit of consuming betel leaves and areca nut for more than 5 years. The age of the respondents ranged from 20-25 years. The sample used in this study still tended to be small because of the new normal situation and many mothers did not want to give birth at health workers and health facilities.

#### 1. Univariate Analysis

The characteristics of the respondents can be seen in the following table:

**Table 1 Characteristics of the Respondent**

No	Characteristic	n	%
<b>A.</b>	<b>Education</b>		
	Elementary	11	37.9
	Secondary	14	48.3
	University	4	13.8
<b>B.</b>	<b>Occupation</b>		
	Yes	15	51.7
	No	14	48.3

Based on table 1, most respondents were at secondary education (48.3%) and the least with higher education (13.8%). Based on work, most respondents did not work (51.7%) compared to respondents who worked (48.3%).

#### 2. Bivariate Analysis

- a. The effect of gedi leaves on the duration of labor in the active phase of the first stage

**Table 2 SPSS Test Results on The Effect of Gedi Leaves on the First Stage of Active Phase**

No	Group	Mean	Min	Max	Normality Test	p
1	Treatment	410	300	640	0.2	0.027
2	Control	513.9	315	720	0.2	

Based on Table 2, the average length of the first stage of labor in the treatment group was faster (410 minutes) than that of the control group (513.9 minutes). After testing the normality of the data, the results obtained were  $0.2 > 0.05$ , meaning that the data was normally distributed. Therefore, a hypothesis test was carried out using an independent T test with a p value of  $0.027 < 0.05$ , meaning  $H_a$  was accepted and  $H_o$  was rejected.

### IV. DISCUSSION

Based on the results of statistical tests using the Independent t-test about the effect of gedi leaves on the duration of labor in the first stage of the Active phase with the p-value of  $0.027 < 0.05$ ,  $H_a$  was then accepted. This means that the consumption of gedi leaves can accelerate the labor process in the first stage of the active phase for women who consumed

betel leaves and areca nut at the Remu Health Center, Sorong City. Red gedi leaves are rich in dietary fiber (Santoso, 2011). Fiber is needed by the body, especially pregnant women who often experience constipation in the third trimester.

In a study at Loyola University in Meywood involving 104 pregnant women in the first trimester and 66 pregnant women in the third trimester, 72% of pregnant women in the first trimester, and 61% in third trimester pregnant women experienced one or more intestinal disorders including constipation. In addition to constipation, respondents in this study also consumed betel nut which could affect the elasticity of the perineum during labor so that labor tends to last longer. This will be a double problem in the delivery process.

According to Kusharto (2006), fiber is able to overcome constipation because fiber is metabolized by bacteria residing in and through the digestive tract. The real effects that have been proven are increasing stool volume, softening stool consistency, shortening intestinal transit time, and producing flatus.

The health of the digestive tract has an important role at the time of delivery. When the rectum is filled, it will result in the process of decreasing the lower part of the fetus and the delivery process will tend to be slow. By consuming gedi leaves before delivery, it is hoped that it can help overcome constipation in pregnant women and empty the digestive tract.

## **V. CONCLUSION**

Consumption of gedi leaves can speed up the labor process in the active phase of labor in mothers who consume betel leaves and areca nut at the Remu Health Center, Sorong City.

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