

Effect of Centella Asiatica Powder (gotu kola) Against Stretch Marks in Postpartum Mothers

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Abstract

Introduction: Stretch marks are one of the inconveniences during pregnancy and the puerperium. Stretch marks, also known as striae gravidarum, are anatomical and physiological changes during pregnancy that can occur in the abdomen, breasts and thighs. It is often also found in the areola or vaginal areas that experience hyperpigmentation. **Objective:** The aim is to find out the effect of Cantella Asiatica Powder (Gotu Kola) on Stretch Marks in Postpartum Mothers at Gerbang Sehat Mahulu Hospital in 2023. **Method:** the type of research is quasi-experimental research, with a non-equivalent control group design approach. Sampling technique with purposive sampling. Data analysis Using Paired Sample T Test. **Results and Discussion:** Based on the results of the study the intervention group and the control group had the appearance of real stretch marks, namely 10 (100%). After administration of Centella Asiatica (gotu kola) powder, most of the respondents had faint stretch marks, 9 (90.0%). Whereas in the control group, after health education about stretch marks, there were 7 (70.0%) respondents who had visible stretch marks and 3 (30.0%) respondents who had faint stretch marks. **Conclusion:** There is an effect of centella asiatica powder (gotu kola) on stretch marks in postpartum women

Keywords: *Influence; Centella Asiatica; Stretch Marks;*

Introduction

Anemia in pregnant women becomes Stretch marks are one of the discomforts in the puerperium. Stretch mark is also known as striae gravidarum, which is a change in physiological anatomy during pregnancy that can occur in the abdomen, breasts and thighs. Often also found in the areola or vaginal area that has hyperpigmentation ((Prawirohardjo, 2014).

Stretch mark or striae distensae (Striae gravidarum) is a skin adverse reaction that occurs during pregnancy that affects about 50-90% of pregnant women. Stretch mark also occurs in other conditions, such as because of weight gain (obesity), muscle hypertrophy (bodybuilders), endocrinopathy (such as Cushing's syndrome), breast enlargement, or as a side effect of topical corticosteroid use and abuse. Stretch mark most often seen on Women's thighs, abdomen, and breasts (Wollina & Goldman, 2017).

Stretch marks have a high prevalence in pregnant women, adolescents who are experiencing growth spurt, and obese people. According to the data, about 90% of pregnant women, 70% of adolescent girls, and 40% of adolescent boys experience stretch marks. This condition is more often found in women than men. However, stretch marks can arise in all breeds. Lesions can be seen more clearly in dark-skinned individuals (MacGregor & Wesley, 2019)

Stretching occurs due to the presence of collagen, which is the elastic tissues that make up the skin. However, the longer the stretch causes collagen bonds to break, resulting in stretch marks. There are at least many stretch marks that arise, one of which is indeed influenced by genetic factors (skin elasticity) (Julianti, Supriyono, Kusfryadi, & Sera, 2018). Abdominal scratching occurs due to an increase in pigment and causes itching, especially in the abdomen because pregnancy (striae gravidarum) tends to experience complaints of more severe itching (Winaris, 2018)

Gotu kola leaves contain triterpenes that function as collagen formers. Triterpenes can increase the metabolism of lysine, proline, and amino acids. Gotu kola also increases the synthesis of tropocollagen and mucopolysaccharides to restore skin elasticity and firmness (Ed, 2017). Natural ingredients are safe and effective for fading stretch mark. Gotu kola extract lotion is easy to use and non-sticky. In addition, it contains aromatherapy for relaxation (Ritana and Rahayu, 2021).

The initial study conducted by researchers at Gerbang Sehat Mahulu Hospital data from January – December 2022 showed that the number of postpartum mothers was 128 people, there were 16 postpartum mothers in November 2022 experiencing stretch marks, because of weight gain, and hormonal increases during pregnancy, so that postpartum mothers lacked confidence.

Method

This type of research is quasi-experimental research, with a non-equivalent control group design approach. The study population, namely postpartum mothers who were treated at the Mahulu healthy gate hospital for the period of November December, was 26 people. The samples taken as many as 26 postpartum mothers were then divided into

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two groups and there were 13 postpartum mothers each for the experimental group and the control group. Sampling technique with purposive sampling. Data analysis using Paired Sample T Test.

Result and Discussion

Results

1. Univariate Analysis

Table 1

Frequency Distribution of Characteristics (Age, Education and Occupation) of Nifas Mothers Intervention Group and Control Group at Mahulu Gate Hospital

Variable	Intervention Group		Control Group	
	n	%	n	%
Age				
<20 Years	1	10.0	2	20.0
25-35 Years	9	90.0	8	80.0
Education				
Century	3	30.0	3	30.0
SHS	6	60.0	5	50.0
Bachelor	1	10.0	2	20.0
Work				
Housewife	9	90.0	8	80.0
Self employed	1	10.0	2	20.0
Total	10	100	10	100

Data Source: Data Primer, 2023

Table 1. showed that the characteristics of respondents in the intervention group based on the most age categories, namely the age of 20-30 years as many as 9 respondents (90.0%), while the lowest was the age of < 20 years as many as 1 respondent (10.0%). The characteristics of respondents according to the last education are the most, namely those with high school education as many as 6 respondents (60.0%) and the lowest is S1 education as many as 1 respondent (10.0%). The characteristics of respondents according to occupation, the highest number is housewife work as many as 9 respondents (90.0%), and the lowest is self-employed as many as 1 respondent (10.0%).

While in the characteristics of the control group respondents based on the most age, namely the age of 20-35 years as many as 8 respondents (80.0%), while the lowest is the age of < 20 years as many as 2 respondents (20.0%). The characteristics of respondents according to the last education are the most respondents with high school education as many as 5 respondents (50.0%) and the lowest number is S1 as many as 1 person (10.0%). The characteristics of respondents according to the most jobs are housewives (IRT) jobs which are 8 people (80.0%), and the lowest is self-employed jobs as many as 2 respondents (20.0%).

Table 2

Frequency distribution of respondents before and after administration of Centella asiatica powder (centella asiatica) against postpartum maternal stretch marks in the intervention and control group at Gerbang Sehat Mahulu Hospital

Variable	Intervention Group		Control Group	
	n	%	n	%
Motivation				
Real	10	100	10	100
vague	-	-	-	-
After				
Real	1	10.0	7	70.0
vague	9	90.0	3	30.0
Total	10	100	10	100

Data Source: Data Primer, 2023

Based on table 2. results were obtained before being given Centella Asiatica powder (gotu kola) in the intervention group, the overall respondents had a real stretch mark appearance of 10 (100%). After giving Centella Asiatica powder (gotu kola), most respondents had a faint stretch mark appearance of 9 (90.0%).

While in the control group before being given health education about stretch marks, all respondents had a real stretch mark appearance, namely 10 (100%) and after health education about stretch marks as many as 7 (70.0%) respondents who had stretch marks looked real and 3 (30.0%) respondents who had stretch marks looked faint

2. Bivariate Analysis

Table 3

Effect of Centella asiatica powder (gotu kola) on stretch marks in postpartum mothers at Gerbang Sehat Mahulu Hospital

Stretch Mark	mean	Mean Different	SD	p-Value
Intervention Group				
Before	1.10	0.8	0.00	0.003
After	1.90		0.316	
Control Group				
Before	1.00	0.3	0.00	0.083
After	1.30		0.483	

Data Source: Data Primer, 2023

Based on Table 3, the results of the analysis using the Wilcoxon test in the intervention group before centella asiatica powder (Centella asiatica) powder was given to stretch marks in postpartum mothers, a mean value of 1.10 was obtained with a standard deviation value of 0.000. After being given centella asiatica powder (Centella asiatica) against stretch marks in puerperal mothers, a mean value of 1.90 was obtained with a standard deviation value of 0.316. The results of analysis using the Wilcoxon Signed Ranks Test can be seen that the value of sig. respondents is $0.003 < \alpha = 0.005$

ie H_a is accepted, meaning that there is an effect of centella asiatica powder (gotu kola) on stretch marks in puerperal mothers. While in the control group before being given health education about stretch marks, the mean value before was 1.00 with a standard deviation value of 0.00. After health education about the stretch mark, the mean value became 1.30 and the standard deviation value was 0.483. The mean difference before and after the posttest was 0.3. The results of analysis using the Wilcoxon Signed Ranks Test can be seen that the value of sig. respondent is $0.083 < \text{value } \alpha = 0.005$ ie H_a is rejected.

Discussion

1. Univariate Analysis

Description before and after administration of centella asiatica powder (gotu kola) against postpartum maternal stretch marks in the intervention and control group at Gerbang Sehat Mahulu Hospital

Based on table 2, all respondents, both intervention and control groups contained in this study, 100% experienced stretch marks with a noticeable appearance.

This is in accordance with Mochtar's theory, which says that skin changes that occur during the puerperium are caused by the process of pregnancy or the enlargement of the uterus which causes stretching and causes tearing of aesthetic fibers under the skin so that striae gravidarum appears

Stretch marks are stretching skin tissue beyond the limits of elasticity, especially the abdomen, thighs, buttocks, and breasts along with fetal growth, gestational age, and weight growth. Stretch marks will cause fine strokes that sometimes imprint even postpartum

Researchers assume that stretch marks in puerperal mothers occur due to the elasticity and stretching of the skin. Stretch marks are also experienced for those who experience weight changes, or hormonal changes. In mothers who after childbirth the skin will become stretched skin that is accustomed to stretching, causing lines in the dermis, the middle layer of skin. This condition begins with the appearance of reddish or purplish marks on the area where the skin is stretched. The mark appears visible from parallel lines, with various colors and textures When the skin stretches rapidly because of the limb expanding or weight gain, the middle layer of skin (dermis) will become so that the layer below it comes to the surface. (Dharmesti, Praharsini, & Indira, 2020)

Meanwhile, after giving Centella Asiatica powder (gotu kola) in the intervention group, most respondents had a faint stretch mark appearance of 9 (90.0%). And the control group that was only given health education about stretch marks out of 10 respondents only 3 (30.0%) respondents who had faint stretch marks.

In previous studies there was a practice or culture carried out during the puerperium which aimed at treatment, namely by using bobok / tapel which aimed to reduce cellulite and hyperpigmentation on the skin. For now, there has not been found a truly effective treatment to eliminate striae after they are formed. The elastic capacity of the skin has been proposed as an important factor related to appearance, so that mainly preventive treatments are based on maintaining and improving the dermis structure of fibroblast

stimulators and healing agents used to increase the production of collagen and elastin fibers

The results of this study are in line with research conducted by Maharani on the appearance of stretch marks before being given gotu kola leaf scrub, most of the appearance of medium and heavy stretch marks. Meanwhile, after being given gotu kola scrub 6 times the condition of fading stretch marks, the skin texture becomes flatter and stretches shrink (light category) (Maharani, Saputri, & Daniati, 2022)

This research is also in line with research conducted by Indria and Rahayu which said that there are differences in circumstances stretch mark Before and after administration of lotion extract centella asiatica where the color of stretch marks from dark to light color (Ritana and Rahayu, 2021).

Researchers assume that the administration of centella asiatica powder in the intervention group most respondents experienced changes in the appearance of stretch marks due to regular use. As for respondents whose stretch mark appearance is still real due to not using centella asiatica powder regularly because they forget and are busy taking care of the baby. Primiparous respondents experienced faster changes than in multiparous respondents. While in the control group, most respondents did not experience a reduction in stretch marks because they only received health education about stretch marks. As for those who experience a faint change in appearance because respondents do stretch mark treatment independently according to the information obtained

2. Bivariate Analysis

The results of the study can be seen that in the intervention group there was a reduction in stretch marks with a P value (sig) of $0.003 < 0.05$ which means that there is an effect of centella asiatica powder on stretch marks in puerperal mothers. The average score of stretch mark reduction before centella asiatica powder (centella asiatica) powder was 1.10 and after intervention with centella asiatica powder the average stretch mark reduction increased to 1.90 with a difference value of 0.8. This shows that there is an effect of centella asiatica (gotu kola) in reducing stretch marks in puerperal mothers. While in the control group, P (sig) values of $0.083 < 0.05$ were obtained, which means that there is no effect of providing health education about stretch marks on stretch marks in postpartum mothers.

This research is in line with Indria and Rahayu's (2021) research that based on the paired T test shows a significant difference in Stretch with an average score of 5.25 on the pre-test While the value after giving gotu kola extract lotion is 1.83 which means gotu kola extract (Centella asiatica) The lotion effectively reduces skin pigmentation and lines on stretch marks, increases skin moisture, and smoothes skin texture (Ritana and Rahayu, 2021). This study is in line with research conducted by Hidayatunnikh, et al (2022), that there was fading of stretch marks owned by mothers with the use of centella asiatica gel with use for 1 month (Hidayatunnikhmah et al., 2022)

Another study conducted by Indena (2012), found that gotu kola leaf extract (Centella Asiatica) can trigger collagen biosynthesis and increase the metabolism of the

supporting tissue in the human dermis layer. Asiatikocide, a triterpan component of gotu kola leaves that functions to protect blood and lymphatic microcirculation by reducing the increase in abnormal capillary permeability of blood vessels (Indena, 2012).

The researcher's assumption that there is a difference between the intervention group and the control group is aimed at the difference value (mean different) in the intervention group was 0.8. While in the control group the difference value (mean different) which is 0.3. Which means that the intervention group given treatment in the form of centella asiatica powder (gotu kola) has an influence on stretch mark in postpartum mothers compared to a control group who were only given health education about stretch mark (Ritana and Rahayu, 2021). By giving treatment at the beginning of stretching can reduce the occurrence of stretch mark by giving Centella extract Asian In mothers routinely can make fading or reduction of stretch marks slowly so that it is hoped that with prolonged administration will fade

Research Limitations

This research has been attempted and carried out in accordance with scientific procedures, however, it still has limitations, namely:

- a. Researchers cannot control the diet of respondents so that if respondents overeat it will cause postpartum mother's weight to increase which can lead to widening *stretch marks*.
- b. Researchers could not control the pattern of respondents' activities such as scratching if there was prurity in *stretch marks*.
- c. Researchers did not conduct direct conservation to supervise respondents in the use of *centella asiatica* powder (gotu kola) according to the instructions.
- d. Feeding *centella asiatica powder* (gotu kola) is not done precisely.

Conclusion

The characteristics of respondents in the intervention group based on the most age categories, namely the age of 20-30 years as many as (90.0%), have the most recent education, namely those with high school education (60.0%) and work, namely housewives (IRT) as much as (90.0%), while in the control group based on the most age, namely the age of 20-35 years (80.0%), according to the last education, the most respondents have a high school education (50.0%), according to the most jobs, namely housewives (IRT) as much as (80.0%).

All respondents in the intervention group and control group had a noticeable stretch mark appearance of 10 (100%). After giving Centella Asiatica powder (gotu kola), most respondents had a faint stretch mark appearance of 9 (90.0%). While in the control group after health education about stretch marks as many as 7 (70.0%) respondents who had stretch marks looked real and 3 (30.0%) respondents who had stretch marks looked faint.

In the intervention group of analysis results using the Wilcoxon Signed Ranks Test, the value of sig. respondents is $0.003 < \alpha = 0.005$ ie H_a is accepted, meaning that there is an effect of centella asiatica powder (gotu kola) on stretch marks in puerperal

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mothers. While in the control group it can be seen that the value of sig. respondents were $0.083 < \alpha = 0.005$ i.e. H_a was rejected which means no influence occurred in the control group who were only given health education about stretch marks.

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