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Herbal Rujak Soup Accelerates Uterine Involution On Postpartum Mothers

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Abstract

According to the World Health Organization (WHO) in 2021, the highest mothers' mortality rate cases occurred in Africa with 525 deaths per 100,000 live births and the lowest was in Europe with 13 deaths per 100,000 live births. The most common cause of mothers mortality rate in Indonesia in 2019 was caused by several cases such as bleeding (30.32%). Uterine atony occurs due to failure of uterine contractions to control bleeding after delivery, causing uterine subinvolution. This process is known as uterine involution. The herbal composition of rujak soup is useful for preventing blood clots due to a compound called gingerol in ginger. The type of research used in this study was a quasi-experiment with a two-group post-test design. The population in this study was postpartum mothers from the first day to the tenth day of postpartum at PMB F Bengkulu City as many as 117 people with a sample of 30 respondents. The statistical test used was the Independent T-test. The results of this study indicate that the average acceleration of uterine involution on the seventh day is known that in the herbal soup rujak group is 4.73 and the uterine involution acceleration in the palm juice group is 5.40 with a mean difference between the herbal kuah rujak group and the date palm juice group. 0.67. There was an effect between the group of herbal ingredients of rujak sauce and the palm juice group on the TFU on day 7 with a p value = 0.038 and a mean difference of 0.67. This proves that the herbal rujak soup accelerates uterine involution more. It is hoped that the PMB of the Telaga Dewa Working Area will continue to promote complementary medicine with herbal ingredients to reduce the use of chemical drugs and help deal with problems during the postpartum period.

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INTRODUCTION

According to the World Health Organization (WHO) in 2021, the highest mothers' mortality rate cases occurred in the African region at 525 deaths per 100,000 live births and the lowest was in the European region at 13 deaths per 100,000 live births (WHO, 2021). The most common causes of mothers' mortality rate in Indonesia in 2019 were caused by several cases, such as bleeding (30.32%), hypertension in pregnancy (25.25%), infection (4.90%), circulatory system disorders such as anemia, hypertension (4 74%), metabolic disorders such as constipation, excessive nausea and vomiting (3.72%) and others (31.06). Postpartum postpartum (PPS) is caused by 70% uterine atony, 20% trauma, and 10% abnormal placenta (POGI, 2016).

Uterine atony refers to the corpus uteri myometrial cells inadequate contraction in response to endogenous oxytocin that is released in the course of delivery. It leads to postpartum hemorrhage as delivery of the placenta leaves disrupted spiral arteries which are uniquely void of musculature and dependent on contractions to mechanically squeeze them into a hemostatic state. Uterine atony is a principal cause of postpartum hemorrhage, an obstetric emergency. Globally, this is one of the top 5 causes of maternal mortality. (Gill P, et al 2023). The process of involution is the return of the uterus to its pre-pregnancy state after childbirth. The normal involution process is characterized by the height of the uterine fundus being half the center of the symphysis in the first week. The process of uterine involution includes the effects of oxytocin, autolysis, and tissue atrophy. (Deussen AR, et al 2020).

Prevention of involution starts from the third stage of labor, namely after the baby is born, palpate the fundus to ensure a single fetus, inject oxytocin and make sure the placenta is complete, and continue with the fourth stage. Involution can be medical (injections, massage, mobilization and drugs) and non-medical (traditional) with herbal drinks (jamu) and date palm juice. Dates juice contains a hormone similar to the hormone oxytocin, which is a hormone produced by neurohypophysis (Zubova TV, et al 2021). Herbal drinks (jamu) were popularized by the people of Ternate as rojak sauce. The herbal soup rujak comes from processed lemongrass, ginger, galangal, turmeric, jaewa acid, palm sugar, coriander and pepper plants (Nurkila and Rosida 2013). Composition The herb rujak rujak is useful for preventing blood clots due to the presence of a compound called gingerol in ginger.

Gingerol is a compound that can prevent blood clots and turn into anticoagulants. Selenium in palm sugar can relieve cramps and pain during menstruation. In addition, brown sugar prevents the occurrence of blood clots, so as to prevent infection and sub-involution on days 1-10 of the puerperium, in line with the research of Nurkila and Rosida (2015) there is an effect of Herbal Rujak soup on the process of postpartum stinging which is felt by other postpartum mothers. discharge of puerperal blood or lochia such as blood more smoothly out, odorless puerperal blood, no abdominal pain and other benefits to the body. Dates are a fruit that is rich in benefits. Dates with various contents that are useful in the body's metabolic processes are very beneficial for health if consumed properly. Saryono et al. (2016) stated that dates can prevent anemia, help the involution process and improve milk quality.

The herb used during the postpartum period is known for generations as rujak spice which consists of 8 medicinal plants namely ginger, turmeric, betel leaf, bay leaf, tamarind, lemongrass, pepper and brown sugar/palm (Muti'ah, 2014). This herb is believed by the community to reduce post-partum pain and almost all women use rujak spices during the puerperium (Ani and Kusumawati, 2018).

The most important benefits felt by mothers regarding the effect of the Herbal Rujak soup on the postpartum period were the discharge of postpartum blood or lochia more smoothly, odorless puerperal blood, no abdominal pain and other benefits to the body. Then the research of Nurkila and Rosida (2013) explained that the benefits of rujak herbs that were felt by postpartum mothers, one of which was that there was no abdominal pain. During the puerperium there will be physiological changes, one of which will involute the uterus so that postpartum mothers often complain of abdominal pain (Laili, 2019). Ginger and turmeric are plants used in ruja seasoning. Postpartum mothers start consuming rujak herbs for 7-14 days during the puerperium and are consumed 2 times a day. The herbal content of the rujak seasoning used in the rujak spice concoction contains active compounds that can produce an analgesic effect. For example, the plants used in the rujak seasoning, namely ginger, lemongrass, turmeric, betel leaf, bay leaf, pepper and tamarind, contain anthocyanins that can act as analgesics.

In a study conducted by Anita (2020), postpartum mothers who consumed traditional rujak spices experienced a 31.70% decrease in uterine diameter compared to postpartum mothers who did not consume these herbal medicines. Based on the results of an initial survey conducted at the PMB in the Telaga Dewa Community Health Center, Bengkulu City, data on the number of postpartum mothers from January-December 2020 was obtained at PMB F as many as 117 people, PMB O 96 people and at PMB M 19 people. Preliminary study conducted at PMB F, postpartum mothers only mobilize and exercise postpartum to accelerate the involution process, there is no complementary therapy applied to all postpartum women regarding the benefits of giving rujak herbs to accelerate the process of involution in postpartum mothers with a high average involution. occurred for 10 days.

Based on the data above, the authors conducted a case study because there were still many mothers who did not know that the involution process could be accelerated by using rujak herbs, so the authors were interested in conducting a case study entitled "The Effectiveness of Rujak Rujak Herbals on the Acceleration of Uterine Involution in Postpartum Mothers in the Independent Practice of Midwives in Bengkulu City in 2022".

METHODS

The type of the research was quantitative research. The design used in this study was a quasi-experimental design, namely by looking at the acceleration of uterine involution in postpartum mothers from the first to the 10th day. using the observation sheet. The design used in this study was a two-group post test design. The population in this study were all postpartum mothers from the first day to the tenth day of postpartum at PMB F Bengkulu City as many as 117 people. The sample in this study were postpartum mothers in the Bengkulu City Midwife Independent Practice. The sample was divided into two groups, namely 15 samples in the intervention group and 15 samples in the control group, with a total sample of 30 samples

This study used bivariate analysis which is processed using computerization. Bivariate analysis was used to see the effect of the independent variable on the independent variable. The analysis in this study to see the difference in the acceleration of uterine involution between postpartum mothers who were given Herbal Rujak soup and the group of postpartum mothers who were given Sari Kurma was performed with the Independent T Test if the data distribution was normal or the Man Whitney Test if the distribution was not normal.

RESULT

Table 1: Frequency Distribution of Age, Parity, IMD History of Post Partum Mothers in the Independent Practice of the Telaga Dewa Midwife, Bengkulu City.

Variabel	Herbal Rujak soup		Sari Kurma	
	N	%	N	%
Usia				
< 20 tahun dan > 35 tahun	1	6,7	3	20
20 – 35 tahun	14	93.3	12	80
Paritas				
Grandemultipara	4	26,7	5	33.3
Primipara/ Multipara	11	73.3	10	66.7
Riwayat IMD				
Ya	5	33,3	7	46,7
Tidak	10	66,7	8	53,3

Source: Primer

Table 1 shows that, the age category of respondents 20-35 years was 14 people (93.3%), and in the date palm juice group, respondents aged 20-35 years were 12 people (80%). From the table, it shows that in the herbal soup group, there are 11 people (73.3%) who have primipara/multipara parity and in the palm juice group there are 10 people (66.7%) who have primipara/multipara parity. Based on the table above, it is also known that in the herbal rujak soup group there were 5 people (33.5%) who did not do IMD and in the palm juice group there were 7 people (46.7%) who did not do IMD.

Table 2: Average acceleration of uterine involution in post partum mothers in the Independent Practice of the Telaga Dewa Midwife in Bengkulu City.

Kelompok Intervensi	N	Max	Min	Mean	Beda Mean	Standar Deviasi
Herbal Rujak soup H3	15	11	9	9.67		0.724
Sari Kurma H3	15	11	9	10.40	0,73	0,632
Herbal Rujak soup H7	15	6	4	4.73		0,828
Sari Kurma H7	15	7	4	5.40	0,67	0,799

Source: Primer

From table 2 it is known that the average value of uterine involution acceleration on the third day in the herbal soup rujak group is 9.67 and the acceleration of uterine involution in the palm juice group is 10.40 with a mean difference between the herbal soup and dates group of 0.73. The average acceleration of uterine involution on the seventh day is known to be 4.73 in the herbal soup rujak group and the uterine involution acceleration in the palm juice group is 5.40 with a mean difference between the rujak herbal group and the date palm juice group of 0.67.

Table 3: The Effect of Rujak and Sari Kurma Herbs on the Acceleration of Uterine Involution.

	Intervensi	N	Mean	Beda Mean	Z	*P*
TFU H3	Sari kurma	15	9.67	0,73	-2.618	0.009
	herbal rujak	15	10.40			
TFU H7	Sari kurma	15	4.73	0,67	-2.079	0.038
	herbal rujak	15	5.40			

The results of the bivariate analysis in table 4.5 above show that there is an effect between the group of herbal ingredients of rujak sauce and the palm juice group on TFU on day 3 with p value = 0.009 and a mean difference of 9.67. While TFU on day 7 with a p value = 0.038 and a mean difference of 0.67 This proves that the herbal soup rujak accelerates uterine involution.

Table 4: The relationship of external variables to the acceleration of uterine involution.

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	8.319[a]	3	2.773	5.322	.005
Intercept	329.486	1	329.486	632.335	.000
PERLAKUAN_KONTROL	.494	1	.494	.948	.339
USIA	4.280	1	4.280	8.215	.008
PERLAKUAN_KONTROL * USIA	.024	1	.024	.047	.830
Error	13.548	26	.521		
Total	792.000	30			
Corrected Total	21.867	29			

Table 4 obtained from multivariate analysis shows that together it turns out that the intervention of rujak herbal sauce, date palm juice and age affect uterine involution by 0.38%.

DISCUSSION

The results showed that the age category of respondents 20-35 years was 14 people (93.3%), and in the date palm juice group, respondents aged 20-35 years were 12 people (80%). The results of this study illustrate that the average post partum mother has a productive age which minimizes the risk of complications in post partum mothers including antonia uteri.

The results of this study also showed that in the rujak soup herbal group there were 11 people (73.3%) who had primipara/multipara parity and in the palm juice group there were 10 people (66.7%) had primipara/multipara parity. The results of this study illustrate that post partum mothers have ideal parity in having children which have a positive impact on the pregnancy process. However, there are still mothers who have grandemultipara parity which can have an impact on the reproductive system, one of which can inhibit the return of uterine involution.

Based on the table above, it is also known that in the herbal rujak soup group there were 5 people (33.5%) who did not do IMD and in the palm juice group there were 7 people (46.7%) who did not do IMD. The results of this study indicate that the average mother does IMD although there are still many mothers who do not do IMD, this can happen because of some problems that IMD cannot do. There are still many mothers who do not do IMD, this can be a problem in the process of uterine involution which by doing IMD can respond to hormones that can accelerate the process of uterine involution.

Based on the table above, it is also known that in the herbal rujak soup group there were 5 people (33.5%) who did not do IMD and in the palm juice group there were 7 people (46.7%) who did not do IMD. The results of this study indicate that the average mother does IMD although there are still many mothers who do not do IMD, this can happen because of some problems that IMD cannot do. There are still many mothers who do not do IMD, this can be a problem in the process of uterine involution which by doing IMD can respond to hormones that can accelerate the process of uterine involution.

According to Kautsar (2011), many factors can influence the involution process including breastfeeding, early mobilization, nutritional status, pariety and age. One of the factors that influence uterine involution is age and parity. Mothers who are older are much affected by the aging process. undergo changes in metabolism, this will inhibit uterine involution, mothers with high parity, the process of involution becomes slower, because the more often they are pregnant, the uterus will often experience stretch.

The results showed that the average value of acceleration of uterine involution on the third day in the herbal rujak soup group was 9.67 and the acceleration of uterine involution in the palm juice group was 10.40 with a mean difference between the herbal soup and dates group of 0.73. The average acceleration of uterine involution on the seventh day is known to be 4.73 in the herbal soup rujak group and the uterine involution acceleration in the palm juice group is 5.40 with a mean difference between the rujak herbal group and the date palm juice group of 0.67/

The results of this study illustrate that postpartum mothers who are given the intervention of rujak herbal sauce will experience accelerated uterine involution faster than post partum mothers who are given the intervention of date palm juice.

The puerperium lasts for approximately 6 weeks. This period the mother requires certain actions that can speed up the involution process. Uterine involution involves reorganization and exfoliation of the decidua/endometrium and exfoliation of the placental attachment site characterized by a decrease in size and weight as well as a change in the location of the uterus as indicated by the color and number of lochia. If there is failure of uterine involution to return to a non-pregnant state, it will cause sub-involution. The most common causes of uterine sub involution are retained placental fragments, infection, and late postpartum haemorrhage (Maritalia, 2014).

The results of this study found that there was an effect between the group of herbal ingredients of rujak sauce and the palm juice group on TFU on day 3 with p value = 0.009 and the mean difference was 9.67. While the TFU on day 7 with a p value = 0.038 and a mean difference of 0.67. This proves that the herbal soup rujak accelerates uterine involution more than giving date palm juice. The results of this study are in accordance with the research research of Nurkila, S. Rosida Hi.S, (2015) with the title The Experience of Consuming Rujak Rujak Herbs in Postpartum Mothers in the Ternate City Region. The results of the study found that the most important benefits felt by the mother was the effect of Herbal Rujak soup on the postpartum period, namely postpartum blood loss or lochia such as blood flowing more smoothly, odorless

postpartum blood, no abdominal pain and other benefits to the body.

The results of this study are in line with research conducted by Anita (2020), postpartum mothers who consumed traditional rujak spices experienced a decrease in uterine diameter by 31.70% compared to postpartum mothers who did not consume these herbal medicines.

Based on the multivariate analysis, it was shown that together, the intervention of rujak herbal sauce, date palm juice and age affected uterine involution (0.38%). The results of this study explain that together from the 2 variables analyzed for the intervention of herbal rujak sauce and palm juice which are supported with age, it will accelerate uterine involution. The presence of this slight influence can occur due to other factors where in addition to these four factors there are still many factors that can affect uterine involution in postpartum women, such as maternal parity where in this study many mothers who were respondents had primiparous and multiparous parity.

The process of uterine involution is strongly influenced by the age of the mother at delivery. The age of 20-30 years is an ideal age for a good involution process to occur. This is due to because of the elasticity factor of the uterine muscles, considering that mothers who are over 35 years old have reduced muscle elasticity. In addition, the action of mobilization causes circulation improvement, makes deep breathing and stimulates normal gastrointestinal function again. With early mobilization, uterine contractions will be good so that the uterine fundus is hard, so the risk of abnormal bleeding can be avoided, because contractions constrict open blood vessels (Elisabeth Siwi, 2017).

CONCLUSION

Based on the results of the research conducted, conclusions were drawn, In the group of rujak herbal soups in the age category of respondents 20-35 years as many as 14 people (93.3%), and in the palm juice group respondents aged 20-35 years as many as 12 people (80%). In the herbal soup group, there were 11 people (73.3%) who had parity of primipara/multipara and in the palm juice group there were 10 people (66.7%) who had parity of grandemultipara. In the herbal soup rujak group there were 5 people (33.5%) who did not have IMD and in the palm juice group there were 7 people (46.7%) who did not do IMD. The average acceleration of uterine involution on the seventh day is known to be 4.73 in the herbal soup rujak group and the uterine involution acceleration in the palm juice group is 5.40 with a mean difference between the rujak herbal group and the date palm juice group of 0.67. There was an effect between the group of herbal ingredients of rujak sauce and the palm juice group on the TFU on day 7 with a p value = 0.038 and a mean difference of 0.67. This proves that the herbal soup rujak accelerates uterine involution more. Taken together, it turned out that the intervention of rujak herbal sauce, date palm juice and age affected uterine involution by (0.38%).

SUGGESTION

Give herbal rujak soup to every postpartum woman to accelerates uterine involution will be the best solution to this case.

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CONFLICTS OF INTEREST

The authors declares that there are no conflicts of interest in this research.

AUTHOR CONTRIBUTIONS

The research team was divided into 3 people where Ferly played a role in data collection and data analysis, Afrina Mizawati played a role in mmothers mortality rateng research results and Mariati in mmothers mortality rateng discussions.

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