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ABSTRACT

The purpose of this study was to determine the effect of the use of bengkung belly on uterine fundal height in postpartum mothers at Permata Bunda Purwodadi Hospital. This research method uses a quasi-experiment with a control group. The research was carried out by conducting home visits at the hospital in February-April 2020. The population was 166 spontaneous postpartum mothers, with a sample of five treatments and five controls. The sampling technique was done by random sampling, data analysis using the Mann Whitney Test. The results showed there was an effect of using belly bengkung on the uterine fundal Height in postpartum mothers at the hospital in the 2nd week with p-value = 0.029 (p < 0.05), while at the 6th week, there was no effect with p-value = 0.053 (p> 0.05). From the results of this study, postpartum mothers can use belly bengkung until the second week to provide benefits, namely to accelerate the process of uterine involution. For optimal comfort and function, the size of the bengkung can be customized to the client's body shape, such as the jumbo size $15m \times 25cm$ and the average size $8m \times 25cm$.

Keywords: Abdominal belly; high fundus uteri; puerperal mother.

INTRODUCTION

The postpartum period is a period of recovery, after the completion of labor until the uterus returns to its pre-pregnancy state. The length of the puerperium is 6-8 weeks. This postpartum period begins 1 hour after the placenta is born until six weeks or 42 days after (Wiknjosastro, 2009). Theoretically, what is expected within six weeks of giving birth is that all of the mother's body systems will recover from the various effects of pregnancy state is called uterine involution (Sukarni and ZH, 2015).

Uterine involution is the process of restoring the uterus to its pre-pregnancy state. Restoring reproductive organs during the puerperium (involution) is very beneficial for mothers after giving birth because this process is the basis for health workers (doctors, nurses, midwives, and others). If this does not usually run, it will cause a condition called uterine subinvolution, which will cause bleeding. Bleeding can increase maternal mortality during the puerperium (Sukarni and ZH, 2015). At this time, postpartum care is vital because it is a critical period for both mother and baby. Estimating that 60% of maternal deaths due to pregnancy occur after delivery (postpartum period) and 50% of postpartum deaths occur within the first 24 hours. It is caused by bleeding if the uterine involution was failed cause not treated immediately (Harianja *et al.*, 2017).

Researchers do much research to help speed up uterine involution, one of which is by doing endorphin massage. Although it did not show significant results, this massage can still reduce maternal anxiety during postpartum. So that with a stable mental health condition, it is expected that physiological processes during the puerperium, such as uterine involution, can be carried out correctly (Rahayu, Widyawati and Dewi, 2018).

During the postpartum period, many postpartum women use bengkung or stagen to recover or flatten the stomach quickly. One of the habits of using bengkung in Bugis is known as bekkeng. Although this bekkeng culture is still a pro and con for health practitioners, some people in Indonesia still believe it is a way to take care of mothers after giving birth (Rahayu, Mudatsir and Hasballah, 2017). Bengkung is a medium or fabric that wraps around the abdomen at the waist (Sajar, Aziz and Aris, 2018). People usually apply pills or boreh on the surface of their abdominal skin before applying bengkung (Andhikatias, Maretta and Andriani, 2021).

As many as 75.5% of postpartum mothers agree with the use of bengkung. Respondents stated that bengkung could accelerate the return of the size of the stomach as before pregnancy, so that they express their agreement to use bengkung during the puerperium. That study shows that the use of bengkung is widespread in the community (Rahayu, 2017). Mothers who give birth more normally and do not experience complications during labor and postpartum are more advised to use the bengkung because the bengkung requires the ability to use it properly (Widaryanti and Riska, 2019).

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There are many benefits of using a bengkung, including maximizing uterine involution, restoring abdominal tone, reducing back pain, and supporting the postpartum mother's back, thus helping to form a faster posture. With a bengkung, pressure on the abdomen can support the abdominal in the lumbopelvic area by putting pressure on the transverse abdominis muscle (Benjamin, van de Water and Peiris, 2014).

Based on a preliminary study at Permata Bunda Hospital, Purwodadi, Grobogan Regency, from data on maternity room visits by type of service, during 2018 there were 4,841 deliveries, and the most spontaneous services were 1,938 deliveries (40.03%), Caesarean section 1,723 (35.59%) and the rest were as follows: curettage, extirpation, biopsy, vacuum extraction, manual cervical, and placental binding services. The results of initial observations on ten spontaneous postpartum mothers, most of whom were nine people who used stagen or bengkung after giving birth to get the stomach back quickly or flat. The purpose of this study was to determine the effect of the use of bengkung belly on uterine fundal height in postpartum mothers at Permata Bunda Purwodadi Hospital.

METHODS

This research is quantitative research using a quasi-experimental post-test only with a control group design. The population of this study was all spontaneous postpartum mothers at Permata Bunda Purwodadi Hospital in August 2019, with 166 people. The sample only consisted of 5 belly bengkung treatments, and five controls had been discontinued due to the covid-19 pandemic. The research variables consisted of the independent variable (belly bengkung), the dependent variable (uterine fundal height). The research instrument used was the uterine fundal height (UFH) observation sheet for the first, second, and sixth weeks. The data analysis used was univariate and bivariate analysis. The normality test of the data used the Shapiro Wilk test because the data distribution was not expected. Bivariate analysis used the Mann-Whitney test to determine the effect of using Belly Bengkung on uterine fundal height in postpartum mothers at the Permata Bunda Hospital in Purwodadi Regency.

RESULTS

Uterine fundal height in postpartum mothers who were treated with bengkung belly at Permata Bunda Purwodadi Hospital

Uterine fundal height (UFH) in postpartum mothers was measured in centimeters. The data presentation used the median as intermediate values and maximum-minimum values as the distribution values because the number of samples was small and the data distribution was not expected, p < 0.05 (Results attached).

Table 1. Uterine fundal height in postpartum mothers who were treated with bengkung belly at Permata Bunda

	r ul wouaul nospital			
UFH	Median	Min	Max	
1 st week	20	18	20	
2 nd week	12	12	15	
6 th week	8	8	10	

Source: Primary Data, 2020.

Based on table 1 above, the uterine fundal height in postpartum mothers treated with bengkung belly at Permata Bunda Purwodadi Hospital in the 1st week had a median of 20cm, a minimum of 18, and a maximum of 20cm. The second week of uterine fundal height had a median of 12cm, a minimum of 12cm, a maximum of 15cm. While the sixth week of uterine fundal height with a median of 8cm, a minimum of 8cm, and a maximum of 10cm.

Uterine fundal height in postpartum women not treated at Permata Bunda Purwodadi Hospital

Table 2. Uterine fundal height in postpartum mothers not treated with bengkung belly (control) at Permata

	Bunda Purwodadi Hospital.		
UFH	Median	Min	Max
1 st week	18	18	24
2 nd week	15	15	22
6 th week	10	8	15
с р.	D (2020		

Source: Primary Data, 2020.

Based on table 2 above, the height of the uterine fundus in postpartum women who were not treated with bengkung belly (control group) at Permata Bunda Purwodadi Hospital in the first week with a median of 18 a minimum of 18 cm, a maximum of 24 cm. Second-week TFU with median 15cm, minimum 15cm, maximum 22cm. Sixth-week TFU with a median of 10cm, minimum 8cm, maximum 15cm.

Belly Bengkung Effect on uterine fundal height in postpartum mothers at Permata Bunda Purwodadi Hospital.

Bivariate analysis was conducted to determine the effect of belly bengkung on uterine fundal height in postpartum mothers at Permata Bunda Purwodadi Hospital. Data analysis was carried out by performing statistical tests using the Mann-Whitney Test because the sample was small, and the data distribution was not expected. The results of the bivariate analysis are presented in the table below:

 Table 3. The effect of using Belly Bengkung on the height of the uterine fundus in postpartum mothers at the

 Permata Bunda Purwodadi Hospital

UFH	Median Difference	Р
2 nd week		
Treatment	20-12=8	0,029
Control 6 th week	18-15=3	
Treatment	20-18=12	0,053
Control	18-10=8	

Source: Primary Data, 2020.

Based on table 3, it can be interpreted that there is an effect of using Belly Bengkung on uterine fundal height in postpartum mothers at Permata Bunda Purwodadi Hospital in the second week with a p-value = 0.029 (p < 0.05), while in the sixth week there is no effect with a p-value = 0.053 (p>0.05). That is supported by data from the difference in the median TFU value in the second week with the first week in the 8cm treatment group and 3cm control group, while the difference in the TFU median value in the 6th week with the first week in the 12cm treatment group and 8cm control group.

DISCUSSION

In the initial stage before the implementation of the study, the researchers determined respondents according to predetermined criteria, namely primiparous postpartum mothers, aged between 20-35 years, spontaneous or average delivery at Permata Bunda Purwodadi Hospital, and postpartum mothers who were willing to become research respondents. The research was conducted at the respondent's house. The intervention group used Bengkung, and the control group did not use Bengkung. The post-test of UFH measurements was carried out in both study groups in the first week, the second week, and the sixth week.

The distribution of respondents in this study is still within the scope of Grobogan Regency, namely Purwodadi city or around Permata Bunda Purwodadi Hospital, and those who are a bit far away are respondents in Toroh District such as Tambirejo, Gendingan, and Depok Villages. In addition, there were respondents from Nambuhan Village in the Purwodadi II Health Center Area. The treatment group in this study were postpartum mothers who were treated with the use of belly bengkung. Previously, the treatment group was given an explanation about the Standard Operating Procedure (SOP) for the use of belly bengkung. The implementation practice in this study was through a series of stages, including asking the respondent's consent, explaining the purpose and benefits of using bengkung belly, and how to use bengkung. Here is how to use bengkung belly, firstly make sure the short fabric on the left and the long fabric is on the right, then tying the knot in the middle and pulling the bengkung fabric firmly, make sure the bengkung fabric is placed on the hips. Secondly, the short fabric is carried over the shoulders, and the long fabric is wrapped around the waist; make sure the fabric is pulled firmly. Last, repeat all the twists and the knot of the bengkung fabric to chest level, knot, and tuck the excess bengkung fabric on the sides of the body for a neater look.

On the first day of the home visit, the treatment group was trained to use Bengkung until they could use it properly. The researcher also taught the respondent's family how to use the bengkung to help or assist respondents in using it correctly. Researchers checked every day by reminding the respondents whether they had used bengkung or not. When the respondent is using the bengkung, the researcher will contact via video call to ensure that the use of the bengkung is under the SOPs that have been taught.

Practically in its implementation, overall, respondents can easily understand and practice using the bengkung correctly according to the SOP that has been given. This is because of respondents' carrying capacity of internal factors such as education level; most of the respondents are 60% junior high school graduates and SMA 40%. The higher a person's education, the better the level of knowledge and the easier it is to adopt good behavior.(Notoatmodjo, 2012) Respondents in this study as a whole were primiparous mothers. Primiparous was chosen because they had the same physiological ability in uterine involution, so that the datum would have been homogenous.

Results of the study show that the height of the uterine fundus in postpartum mothers who were treated with bengkung belly in the Permata Bunda Purwodadi Hospital in the first week with a median of 20cm, minimum 18cm, maximum 20cm. Second-week uterine fundal height (UFH) with median 12cm, minimum 12cm, maximum 15cm. Sixth-week UFH with a median of 8cm, minimum 8cm, maximum 10cm. Meanwhile, uterine fundal height in postpartum mothers who were not treated with bengkung belly or called the control group at the Permata Bunda Purwodadi Hospital in the first week with a median of 18cm, minimum 18cm, maximum 24cm. Second-week

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UFH with median 15cm, minimum 15cm, maximum 22cm. Sixth-week UFH with a median of 10cm, minimum 8cm, maximum 15cm.

Based on the results of bivariate analysis using the Mann Whitney Test, it was found that there was an effect of using Bengkung Belly on uterine fundal height in postpartum mothers at Permata Bunda Purwodadi Hospital in the second week with a value of p = 0.029 (p < 0.05), while in the sixth week there was no effect with p-value = 0.053 (p>0.05). It is supported by data from the difference of the median UFH value in the second week with the first week in the 8cm treatment group and 3cm control group, while the difference in the median uterine fundal height value in the sixth week with the first week in the treatment group was 12cm and 8cm, respectively.

In the control group who was not treated with belly bengkung, uterine involution would occur physiologically. In other words, if the bengkung were not applied, the UFH would decrease. It is in line with the theory that a mother in postpartum will experience involution, which is a process of returning the uterus to its prepregnancy condition. With this uterine involution, the outer layer of the decidua surrounding the placental site will become neurotic (wither/dead). These changes can be detected by performing a palpation examination to feel the height of the uterine fundus.

Meanwhile, in the treatment group with bengkung belly, there was a significant difference in the decrease in uterine fundal height in the first week (week 1 to week 2). Because there is a physiological process (uterine involution) in the treatment group respondents and because it is assisted by the use of belly bengkung, which gives a comfortable emphasis on the abdomen. This comfort arises because Bengkung Belly is a bandage cloth wrapped around the mother's belly from a comfortable woven fabric that can absorb sweat. Bengkung is different from the stagen, which is wrapped around the mother's stomach will feel stiff and less able to absorb sweat so that the mother will feel uncomfortable. For the sake of optimal comfort and function, the size of the bengkung is also adjusted to the client's body shape, such as the jumbo size 15m x 25cm and the standard size 8m x 25cm. However, at the time after the second week to the sixth week between the treatment group and the control group, there was no statistically significant difference in UFH reduction, but when viewed from the median value of 10 cm. Seeing the difference in the median value, the researchers still recommend postpartum mothers to continue to wear belly bengkung until the 6th week to help the process of uterine involution.

The results of this study are supported by the theory that postpartum mothers who use bengkung belly, which functions as a support fabric, will get compression or pressure on the abdomen. This pressure will help to support the abdomen and lumbopelvic area by putting a little pressure on the transversus abdominis muscle.(Benjamin, van de Water and Peiris, 2014) Anatomically, the abdominal muscles consist of three layers; the deepest layer is the transversus abdominis, which functions as a bodice girdle to hold and maintain stability and play an essential role in exhaling and coughing. The next layer is the rectus abdominis which is the abdominal muscle to flex the spine. The last and closest layer to the surface is the internal and external obliques, the abdominal muscles that rotate the torso and give the body rotation and sideways movement (Hall, 2018)

There has been no publication of previous scientific research that discusses the effect of using Bengkung Belly on the height of the uterine fundus. However, several related journals are based on a research journal entitled the effectiveness of bengkung and octopus on uterine involution and lochea expenditure at the Keling Health Center, Kediri Regency. The study result stated that there was no effectiveness against uterine involution but recommended that postpartum women use the bengkung correctly to help restore their health.(Rahayu, 2017)

Physiologically, bengkung can support the abdomen and help the function of the transversus abdominis. Transversus abdominis has functioned as a body girdle, as a barrier and maintain stability, and helps the abdominal muscles to flex the spine. Belly bengkung can tighten the abdominal muscles and help speed up the recovery of the uterus to its original shape. In the end, it will help the abdominal muscles work more perfectly. (Rahayu, 2018)

Another related research is about "Belief in the Ability of Bengkung Culture in Increasing Breast Milk Production in the Bulukumba Community." The results showed that Bengkung could increase hormones in the

postpartum mother's body so that it also indirectly stimulates milk production during the postpartum period. (Kamaruddin *et al.*, 2019) It is different from Siyoto's research (2019) entitled "Analysis of Uterus Involution, Lochea Expenditures and Back Pains on the Post Partum Mother Using Bengkung and Octopus." The result is that there is no significant relationship between the uterus, lochea discharge, and back pain in postpartum mothers using bengkung and octopus.(Siyoto, 2019)

CONCLUSION

There is an effect of using belly bengkung on uterine fundus height in postpartum mothers in the Permata Bunda Purwodadi Hospital in the 2nd week with p-value = 0.029 (p < 0.05), while at the 6th week, there was no effect with p-value = 0.053 (p> 0.05). It is hoped that further research will be able to conduct further research on

the effect of using Bengkung Belly on uterine fundal height in postpartum women by increasing the number of samples of postpartum women.

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