



# International Journal of Midwifery and Nursing Practice

E-ISSN: 2663-0435  
P-ISSN: 2663-0427  
[www.nursingpractice.net](http://www.nursingpractice.net)  
IJMNP 2023; 6(1): 35-39  
Received: 03-01-2023  
Accepted: 05-02-2023

**Kurniyati**  
Midwifery Study, Bengkulu  
Health Polytechnic Program,  
Kota Bengkulu, Bengkulu  
38225, Indonesia

**Wenny Indah Purnama Eka  
Sari**  
Midwifery Study Bengkulu  
Health Polytechnic program,  
Kota Bengkulu, Bengkulu  
38225, Indonesia

**Derison Marsinova Bakara**  
Nursing Study Program  
Bengkulu Health Polytechnic,  
Kota Bengkulu, Bengkulu  
38225, Indonesia

**Corresponding Author:**  
**Kurniyati**  
Midwifery Study, Bengkulu  
Health Polytechnic Program,  
Kota Bengkulu, Bengkulu  
38225, Indonesia

## The effect of using bengkung - belly bind on reducing diastasis rectus abdominis in postpartum mothers in private practice midwifery, Curup city, Rejang Lebong Regency

**Kurniyati, Wenny Indah Purnama Eka Sari and Derison Marsinova Bakara**

**DOI:** <https://doi.org/10.33545/26630427.2023.v6.i1a.133>

### Abstract

**Background:** Postpartum maternal health status is essential to improving a postpartum mother's quality of life. The most common complaints in postpartum mothers are back pain and pain in the syphilis region and abdomen. These complaints arise due to diastasis rectus abdominis (DRA).

**Objective:** To overcome postpartum DRA in postpartum mothers by using Bengkung-belly bind.

**Methods:** This research was conducted on postpartum mothers who experienced DRA in independent practice midwives in Curup City, Rejang Lebong Regency. The sample in this study was a consecutive sampling method with 32 respondents.

The research design was quasi-experimental, with a pre-test and post-test design with one group.

**Result:** In week 6, after the intervention of the Bengkung-belly bind, the Z value of -5.477 was obtained, and the p-value <0.05. The data analysis showed the effect of using Bengkung-belly bind in reducing DRA in postpartum mothers.

**Conclusion:** The use of bengkung-belly bind can be recommended by private practice midwifery in postpartum mothers to reduce DRA.

**Keywords:** Use of Bengkung-belly bind, rectal diastasis, post-partum

### Introduction

Postpartum maternal health status is important in improving a postpartum mother's quality of life. Currently, in developing countries, 70% of postpartum mothers have not received good postnatal care, and the most common complaints are back pain, pain in the symphysis area, and a lethargic stomach. These complaints arise from the diastasis rectus abdominis (DRA) not getting proper treatment<sup>[1]</sup>.

Pregnancy is a natural physiological process, but postpartum complications often occur in postpartum mothers. A pregnant woman undergoes several anatomical changes, including an increase in the uterus size by 5 to 6 times. Uterine enlargement can cause postpartum problems, namely DRA. Diastasis rectus abdominis (DRA) weakens the abdomen and reduces the stability of the lumbar spine and pelvis. DRA causes lumbopelvic pain and abdominal organ prolapse and weakens the pelvic floor muscles. DRA occurs in 68% of postpartum mothers. DRA impacts postpartum maternal health problems, namely low back pain after childbirth and causes limitations in daily activities.<sup>[2, 3, 4]</sup>

DRA is common in pregnant women and often occurs in the second and third trimesters of pregnancy. DRA occurs due to stretching of the uterus because the baby's development in the stomach during pregnancy will make the abdominal muscles and ligaments stretch to adjust to the condition and size of the baby. Effects of the hormone progesterone and relaxin make the ligaments lineal Alba stretching, and separation of the rectus abdominis muscle during pregnancy as the baby grows in size. The condition of separation of the two rectus abdominis muscles is known as diastasis rectus abdominis. DRA occurs most frequently during pregnancy and regresses spontaneously after delivery in most postpartum<sup>[5, 6, 7]</sup>.

DRA is a condition in which the rectus abdominis muscle separates in the midline at the lineal Alba. Diastasis was defined as a gap between the recti abdominis muscles of more than 2.5 cm. Separation of the lineal alba can occur during pregnancy or during the expulsive stage of labor. It is common in the female population during pregnancy and in the postpartum period.

Symptoms include abdominal pain and discomfort and musculoskeletal and urogynecological problems. Besides, it triggers negative body image and impaired quality of life [8, 9, and 10].

DRA is more common in the supraumbilical region and is associated with maternal age and postpartum maternal body mass index. The locations of DRA are 11% below the umbilicus, 52% at the umbilicus, and only 37% above the umbilicus. The rectal separation may vary, 2 to 3 cm wide and 2 to 5 cm high. DRA occurs in the second to third trimesters and will continue until after delivery. Usually, it causes complaints such as abdominal muscle weakness, lower back pain and posture disorders. Postpartum, the abdominal wall of some postpartum mothers can return to its original state. Most do not experience recovery [11, 12, and 13].

DRA can occur in 30% to 70% of pregnant women, and the possibility continues after pregnancy in 35% to 60% of women. It can cause problems with the abdominal muscles after childbirth, such as psychological problems, cosmetic disorders and physical problems such as back pain, protrusion of the abdominal wall, weakness in the abdominal wall, and decreased strength of the abdominal muscles. It can also cause musculoskeletal complications. Therefore, intervention or corrective exercises are necessary to prevent and treat postnatal diastasis rectus abdominis (DRA) [14, 15, and 16].

Bengkung-belly bind use is one of the cultures or habits that still apply in the community today, especially among postpartum mothers in Indonesia. Based on the results of a preliminary survey conducted by researchers in the form of interviews, it was found that most postpartum mothers used Bengkung-belly bind after giving birth. It gives comfort because wearing a Bengkung-belly bind supports their stomach during activities and reduces back pain complaints. Based on these surveys and data, it is necessary to research the use of Bengkung-belly bind to reduce diastasis rectus abdominis (DRA). This study aimed to overcome DRA in postpartum mothers by providing an intervention using Bengkung-belly bind for postpartum mothers who experienced diastasis rectus.

## Materials and Methods

This study was designed as Quasi-experimental with pre-and-post-test *in one group of mothers*. The intervention carried out was the use of Bengkung-belly bind in postpartum mothers. Then an assessment of postpartum diastasis rectus abdominis (DRA) that occurred in postpartum mothers was carried out. The assessment was carried out before and after the use of the Bengkung-belly bind. This research was conducted on postpartum mothers who experienced DRA in private practice midwifery in Curup City, Rejang Lebong Regency. Sampling in this study was a consecutive sampling method with 32 postpartum mothers as respondents.

The assessment was carried out on DRA postpartum mothers before and after using of Bengkung-belly bind in the postpartum period to see the impact of the Bengkung-belly bind on DRA. Postpartum mothers used bengkung-belly bind for 6 weeks, reassessing diastasis DRA every week.

In this study, the Bengkung-belly bind used is a modification of the corset that many postpartum mothers commonly used to make daily use more comfortable for

postpartum mothers. Its back is made of cloth, making it comfortable for mothers, while the front part of the mother's abdomen is modified with a corset. The bengkung-belly bind use was begun on the third day of postpartum, and the modified Bengkung-belly bind was used every day. It was only opened when bathing and sleeping and used until the puerperium's end (6 weeks). Postpartum mothers were recommended to use the Bengkung-belly bind, not too tight, as it can cause discomfort.

## Results

In table 1, the characteristics of the respondents show that most of the respondents are 25 years old, which is 18 (56%). The parity of the respondents was in the multipara category, namely (14) 56%. The BMI of respondents is in the ideal category (27) 84%.

**Table 1:** Characteristics of Research Respondents of The Effect of the Bengkung-belly bind Use on DRA in Postpartum Mothers

Characteristics of Respondents	n	%
Age (years):		
- 25 years	18	56
- > 25 years	14	44
Parity:		
- Primipara	14	44
- Multipara	18	56
BMI		
- Ideal	27	84
- Obesity	5	16

Table 2 indicates DRA before using bengkung-belly bind in 32 postpartum mothers (100%). In week 1 of using the bengkung-belly bind, 32 postpartum mothers experienced rectal diastasis (100%), 31 in week 2 (97%), 27 in week 3 (84%), 13 in week 4 (41%), 7 in week 5 (22%), and 1 in week 7 (6%). Table 2 concludes a decrease in diastasis rectus abdominis in postpartum mothers using bengkung-belly bind after 6 weeks.

**Table 2:** Changes in Diastasis Recti Abdominal (DRA) in Postpartum Mothers after Using Bengkung-belly bind

Diastasis Recti Abdominal	n	%
<b>Before Intervention</b>		
- DRA	32	100
- No DRA	0	0
<b>After 1 week of intervention</b>		
- DRA	32	100
- No DRA	0	0
<b>After 2 weeks of intervention</b>		
- DRA	31	97
- No DRA	1	3
<b>After 3 weeks of intervention</b>		
- DRA	27	84
- No DRA	5	16
<b>After 4 weeks of intervention</b>		
- DRA	13	41
- No DRA	19	59
<b>After 5 weeks of intervention</b>		
- DRA	7	22
- No DRA	25	78
<b>After 6 weeks of intervention</b>		
- DRA	2	6
- No DRA	30	94

Table 3 shows the results of the normality test of the data using the *Shapiro-Wilk statistical test*, where the *p* was mostly less than 0.00. These results conclude that the data

were not normally distributed, so the appropriate statistical test to be carried out is to use *Wilcoxon non-parametric statistics test*.

**Table 3:** The Normality Test for Data Distribution on the effect of Bengkung-belly bind on reducing Diastasis Recti in Post-Partum Mother

No	Data	Mean	SD	Min	Max	95%CI	Nilai <i>p</i>
1.	Age	25,40	3,723	18,00	34,00	24,06-26,74	0,699
2	Parity	1,56	0,504	1,00	2,00	1,38-1,74	0,000
3	BMI	27,56	3,110	20,90	34,60	26,44-28,69	0,566
4	Diastasis Recti before intervention	7,10	10,593	3,00	57,00	3,29-10,92	0,000
5	Diastasis Recti After Intervention Week I	3,95	0,624	3,00	5,00	3,72-4,17	0,040
6	Diastasis Recti After Intervention Week II	3,54	0,665	2,00	5,00	3,30-3,78	0,003
7	Diastasis Recti After Intervention Week III	3,13	0,596	2,00	4,70	2,91-3,34	0,153
8	Diastasis Recti After Intervention Week IV	2,59	0,644	2,00	4,00	2,56-2,82	0,000
9	Diastasis Recti After Intervention Week V	2,02	0,637	1,00	3,00	1,79-2,25	0,000
10	Diastasis Recti After Intervention Week VI	1,80	0,591	1,00	3,00	1,59-2,01	0,000

Statistical test results of the effect of the use of Bengkung-belly bind on reducing diastasis recti shown in table 4 is at week 1 after the intervention; the z-value is 0.000, and the p-value > 0.05. These results show no effect of 1 week of use of bengkung-belly bind to reduce diastasis recti. At week 2 of the intervention, a Z value of -1,000 was obtained and a p value > 0.05 showing no effect of 2 weeks of using Bengkung-belly bind on the reduction of rectal diastasis. In week 3, the Z-value of -2.236 and a p-value of <0.05 indicated an effect of using bengkung-belly binding on the reduction of diastasis recti. In week 4 after the intervention,

the Z value was -4.359, and the p-value was <0.05. These results can be interpreted that there is an effect of 4 weeks of using bengkung-belly bind on the reduction of diastasis recti. At week 5 after the intervention, the Z value of -5.000 and the p-value < 0.05 were obtained. These results show the effect of using bengkung-belly bind on the reduction of diastasis recti. In week 6 after the intervention, the Z value was -5,477, and the p-value was < 0.05. These results indicate an effect of 6 weeks of using bengkung-belly bind on the reduction of diastasis recti.

**Table 4:** The Effect of using Bengkung-belly bind on reducing the *Diastasis recti* Postpartum Mothers in Lebong

Measurement	Mean	SD	Z	p	Minimum-Maximum
<i>Diastasis recti</i>			0.000	1,000	
- Before Intervention	7, 10	10, 593			3.00-57.00
- After Intervention week 1	3, 72	0.624			3.00-5.00
<i>Diastasis recti</i>			2.00-5.00	0.317	
- Before Intervention	7, 10	10, 593			3.00-57.00
- After Intervention week 2	3.54	0.665			Diastasis
<i>Diastasis recti</i>			-2,236	0,025	
- Before Intervention	7, 10	10, 593			3.00-57.00
- After Intervention week 3	3, 13	0, 596			2.00-4.70
<i>Diastasis recti</i>			-4.359	0.000	
- Before Intervention	7,10	10,593			3.00-57.00
- After Intervention week 4	2.59	0.644			2.36-2.82
<i>Diastasis recti</i>			-5,000	0.000	
- Before Intervention	7.10	10,593			3.00-57.00
- After Intervention week 5	2.02	0.637			1.79-2.25
<i>Diastasis recti</i>			-5,477	0.000	
- Before Intervention	7.10	10.593			3.00-57.00
- After Intervention week 6	1.80	0.591			1.59-2.01

**Discussion**

The results showed an effect of using bengkung-belly bind on the reduction of diastasis rectus abdominis (DRA) in postpartum mothers with a p-value of < 0.05. The research result indicated that postpartum mothers who use bengkung-belly bind had decreased diastasis rectus abdominis (DRA) after 3 weeks. Using bengkung-belly bind in postpartum mothers reduces various complaints, especially lower back pain. Another benefit postpartum mothers feel after using bengkung-belly bind during postpartum is supporting a sagging stomach and making activities more comfortable. Judging from the health aspect, using bengkung-belly bind can withstand abdominal pressure when the postpartum mother is sneezing, coughing, laughing or making sudden

movements that cause increased pressure in the abdomen. Using a hip support belt accompanied by ergonomic advice in daily activities is an effective non-pharmacological tool in reducing the intensity of low back pain associated with pregnancy and increasing the ability to perform daily activities [17]. Continued and extended use of the hip belt during and after pregnancy may be associated with modification of pelvic asymmetry in the perinatal period. Therefore, proper and comfortable usage instructions and recommendations for continuous use of the hip belt, especially during pregnancy, are needed to prevent some of the discomforts associated with hip misalignment [18]. Postpartum abdominal stability can activate the abdominal and paraspinal muscles, which affect diastasis rectus

abdominis (DRA) to decrease diastasis recti abdominis in normal postpartum mothers. Visceral manipulation helps reduce rectus distance, decrease numerical pain levels, increase functional activity in postpartum women with diastasis rectus abdominis (DRA) and restore bladder and bowel function <sup>[19]</sup>. The use of bengkung-belly bind also improves the body posture, which is more upright and balanced so that back pain can be reduced <sup>[20]</sup>.

Physiologically, bengkung-belly bind can support the stomach and help the function of the transverses abdominis. The transverses abdominis functions as a body girdle acts as a barrier, maintains stability, and helps the abdominal muscles flex the spine. Bengkung-belly bind can tighten the abdominal muscles and help speed up the recovery of the uterus to its original shape. Ultimately, it will help the abdominal muscles work more perfectly <sup>[21]</sup>.

### Conclusions

The conclusion of this study shows that there is an effect of using bengkung-belly bind on reducing diastasis rectus abdominis (DRA) in postpartum mothers. The results of this study can be used as important data to help postpartum mothers overcome the impact of DRA by using bengkung-belly bind. The results of this study also suggest seeking the help of private practice midwifery to help postpartum mothers experiencing DRA.

### Acknowledgements

We thank all participants who provided valuable information in this study. This research was funded by Poltekkes Kemenkes Bengkulu, Indonesia.

### References

- Nurhayati F. The use of belly binding to reduce diastasis recti abdominis on postpartum mother; c2021.p. 128-132.
- Kazmi K, Hashmi GM, Bilal M, *et al.* Effect of Abdominal Physiotherapy in Reduction of Inter Recti Distance in Postpartum Females. *Pakistan J Med Heal Sci.* 2021;15(6):1446-1448. doi:10.53350/pjmhs211561446
- Alamer A, Kahsay G, Ravichandran H. Prevalence of Diastasis Recti and Associated Factors among Women Attending Antenatal and Postnatal Care at Mekelle City Health Facilities, Tigray, Ethiopia. *World J Phys Med Rehabil.* 2019;1:1005. <https://www.researchgate.net/publication/342171598>.
- Gandhi B, Dhankar S, Desphande S, Arora SP. Impact of Diastasis Recti Abdominal and low back pain on Quality of Life in Postpartum female. *J Med Pharm Allied Sci.* 2021;10(4):3244-3248. doi:10.22270/jmpas.V10I4.1297
- Cavalli M, Aiolfi A, Bruni PG, *et al.* Prevalence and risk factors for diastasis recti abdominis: A review and proposal of a new anatomical variation. *Hernia.* 2021;25(4):883-890. doi:10.1007/s10029-021-02468-8
- ABD EL-Rahman H, ABD EL-Wahab, MD KSAE-APD, DOAA A, ABD AL-HADY, M.Sc. AMBPD. The Effect of Intermittent Pneumatic Compression Belt on Postnatal Diastasis Recti. *Med J Cairo Univ.* 2018;86(9):2185-2188. doi:10.21608/mjcu.2018.57500
- Yaseen K, Anwar N, Ayesha S, Tauqeer S, Khalid K, Shaheen F. Prevalence of Diastasis Recti among Pregnant Women: A Cross Sectional Study. 2022;61(1):40-42.
- Ahmed G, IBRAHIM M.Sc. SME-KPD M, MOJAHED MDE. Awareness of Gynecologists and Mothers about the Role of Physical Therapy in the Treatment of Rectus Diastasis Cases. *Med J Cairo Univ.* 2020;88(3):71-77. doi:10.21608/mjcu.2020.93962
- Michalska A, Rokita W, Wolder D, Pogorzelska J, Kaczmarczyk K. Diastasis recti abdominis - A review of treatment methods. *Gynecology Pol.* 2018;89(2):97-101. doi:10.5603/GP.a2018.0016
- Jessen ML, berg S, Rosenberg J. Treatment Options for Abdominal Rectus Diastasis. *Front Surg.* 2019;6:4-9. doi:10.3389/fsurg.2019.00065
- Thabet AA, Alshehri MA. Efficacy of deep core stability exercise program in postpartum women with diastasis recti abdominis: A randomized controlled trial. *J Musculoskeletal Neuronal Interact.* 2019;19(1):62-68.
- Donnelly G. Diastasis rectus abdominis: physiotherapy management. 2019:15-19.
- Werner LA, Dayan M. Diastasis Recti Abdominis-diagnosis, Risk Factors, Effect on Musculoskeletal Function, Framework for Treatment and Implications for the Pelvic Floor. *Curr Women's HealRev.* 2018;15(2):86-101. doi:10.2174/1573404814666180222152952
- Sperstad JB, Tennfjord MK, Hilde G, Ellström-Engel M, Bø K. Diastasis recti abdominis during pregnancy and 12 months after childbirth: Prevalence, risk factors and report of lumbopelvic pain. *Bro J Sports Med.* 2016;50(17):1092-1096. Doi:10.1136/bjsports-2016-096065
- Mahalakshmi V, Sumathi G, Chitra TV, Ramamoorthy V. Effect of Exercise on Diastasis Recti Abdominis among the Primiparous Women: A Quasi-Experimental Study. *Int. J Reprod Contraception, Gynecol Obstet.* 2016;5(12):4441-4446.
- Daryanti MS, Fitriahadi E. The Effect of Dance Pregnancy on Abdominal Recti Diastasis in Pregnant Women at BPM Sleman Regency; c2019.p. 2-5. <http://elibrary.almaata.ac.id/1910/>.
- Marzouk T, Fadel EA. Effect of a Lumbopelvic Belt versus Pelvic Strengthening Exercise on the Level of Pregnancy-Related Low Back Pain. *IOSR J Nurs and Heal Sci.* 2020;9(1):1-12. doi:10.9790/1959
- Morino S, Ishihara M, Umezaki F, *et al.* The effects of pelvic belt use on pelvic alignment during and after pregnancy: A prospective longitudinal cohort study. *BMC Pregnancy Childbirth.* 2019;19(1):1-9. doi:10.1186/s12884-019-2457-6
- Kirk B, Elliott-Burke T. The effect of visceral manipulation on Diastasis Recti Abdominis (DRA): A case series. *J Bodyw Mov Ther.* 2021;26:471-480. doi:10.1016/j.jbmt.2020.06.007
- Oktaviyani F, Pamungkasari EP, Murti B. Effect of Core Stability Exercise in Preventing Diastasis Recti Abdominis among Normal Birth Delivery of Postpartum Mothers: Meta-Analysis. *Indonesia J Med.* 2022;7(2):188-199. doi:10.26911/theijmed.2022.07.02.07
- The Effect of Bengkung Use on Back Pain in Postpartum Mothers in Keling Village. 2017;8. PDF Free Download.pdf.

**How to Cite This Article**

Kurniyati, IPES Wenny, MB Derison. The effect of using bengkung - belly bind on reducing diastasis rectus abdominis in postpartum mothers in private practice midwifery, Curup city, Rejang Lebong Regency. International Journal of Midwifery and Nursing Practice. 2023;6(1):35-39.

**Creative Commons (CC) License**

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.