

THE EFFECT OF USE OF "UNDERCARE UNDERWEAR ITA, CIDITA" ON REDUCING WOUND PAIN POST SECTIO CAESAREA

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ABSTRAK : PENGARUH PENGGUNAAN "UNDERCARE UNDERWEAR ITA, CIDITA" TERHADAP PENURUNAN NYERI LUKA POST SECTIO CAESAREA

Latar Belakang: Sectio caesarea diperkenalkan sebagai praktik klinis untuk menyelamatkan nyawa ibu dan bayi ketika komplikasi medis kritis muncul selama kehamilan. Pasien akan merasa sakit selama beberapa minggu post-sectio caesarea, pasien mungkin memerlukan pereda nyeri selama satu minggu hingga sepuluh hari setelah melahirkan. "Undercare Celana Dalam Ita" merupakan inovasi yang digagas dalam upaya memberikan kenyamanan untuk ibu post-sectio caesarea dengan menggunakan celana dalam yang sudah dimodifikasi lengkap dengan fungsi gurita dan magnet untuk membantu menurunkan nyeri post-sectio caesarea

Tujuan penelitian : menganalisis pengaruh penggunaan "Undercare Celana Dalam Ita" terhadap pengurangan dan nyeri post sectio caesarea.

Metode penelitian : desain penelitian ini adalah penelitian kuantitatif dengan menggunakan metode quasi experimental design. Sampel penelitian ini adalah ibu yang dilakukan sectio caesarea di RSUD Kabupaten Bekasi periode bulan April 2024. Independent sample t test dan uji Generalized Estimating Equations (GEE) digunakan untuk mengetahui pengaruh overall skor dari pretest, posttest 1, posttest 2, dan posttest 3 terhadap pengurangan nyeri luka operasi post sectio caesarea.

Hasil penelitian : independent sample t test diperoleh posttest 1 (Mean Diff: 1,119; 95% CI 0,734-1,504; $p = <0,001$), posttest 2 (Mean Diff: 1,143; 95% CI 0,755-1,531; $p = <0,001$), dan posttest 3 (Mean Diff: 0,833; 95% CI 0,451-1,215; $p = <0,001$), menunjukkan hasil yang signifikan. Uji Generalized Estimating Equations (GEE) diketahui bahwa overall data menunjukkan pengurangan nyeri post sectio caesarea (Mean Diff: 4,130; 95% CI 2,147-6,114; $p = <0,001$).

Kesimpulan : terdapat pengaruh penggunaan Undercare Celana Dalam Ita terhadap pengurangan nyeri post sectio caesarea.

Saran : Bagi pasien post sectio caesarea dapat menggunakan "Undercare Celana Dalam Ita, CIDITA" untuk mempercepat menurunkan nyeri post-sectio caesarea

Kata Kunci : Post sectio caesarea, Undercare Celana Dalam Ita

ABSTRACT

Background: In cases of life-threatening maternal or foetal problems, the sectio caesarea was instituted as a clinical procedure to preserve mother and child. Patients may need pain medication for one to ten days following delivery, and they will continue to feel pain for several weeks following a caesarean section. The "Undercare Underpants Ita" are a new invention that aims to alleviate the discomfort that some women experience after cesarean sections by utilizing modified underwear that includes octopus and magnet features.

Purpose: The research set out to determine whether "Undercare Underpants Ita" could alleviate discomfort experienced by women after cesarean sections.

Methods: This research used a quantitative approach based on a quasi-experimental methodology. This research aimed to examine the outcomes for moms who had cesarean sections performed in April 2024 at the Bekasi Regency Hospital. We utilized a Generalized Estimating Equation (GEE) test and an independent sample t test to find out how different total scores from the pretest, posttest 1, posttest 2, and posttest 3 affected the decrease in post-sectio caesarea surgical wound pain.

Results: Posttest 1, posttest 2, and posttest 3 all yielded significant results in the independent sample t test (mean difference: 1.119; 95% CI: 0.734-1.504; $p = <0.001$), with posttest 3 also yielding a significant result (mean difference: 0.833; 95% CI: 0.451-1.215; $p = <0.001$). The results of the Generalized Estimating Equations (GEE)

test indicated a decrease in post-sectio caesarean discomfort, as evidenced by a mean difference of 4.130 (95% CI: 2.147-6.14; $p = <0.001$).

Conclusion: Last but not least, wearing Undercare Ita Panties might alleviate some of the discomfort that comes after a cesarean section.

Suggestions; For post sectio caesarea patients can use "Undercare Underpants Ita, CIDITA" to accelerate reducing post-sectio caesarea pain.

Keywords: : Post Sectio caesarea, Undercare Ita Panties.

INTRODUCTION

One of the most frequently performed surgical interventions for delivering a baby is the caesarean section (CS), which involves making incisions in both the abdomen and uterus (Caughey, 2014; NICE, 2019). This procedure is often carried out when the lives of the mother, fetus, or both are at significant risk (Ashar, 2019). According to the World Health Organization (WHO), between 5-15% of all caesarean sections are conducted across various socio-economic settings, including developing, underprivileged, and affluent countries. Studies indicate that in China, the prevalence of caesarean sections surpasses 15%, raising medical concerns (WHO, 2015; Ye J, 2019). There has been a notable rise in caesarean section rates globally, encompassing both developed and developing nations, as well as poorer regions. However, the underlying reasons for this increasing trend remain a topic of ongoing discussion, particularly in the latter two groups (Ashar, 2017).

In cases of life-threatening maternal or fetal problems, a caesarean section is instituted as a clinical procedure to save both mother and child. Globally, the caesarean section rate has increased to 40.5% in the past 20 years, with an increase of 32.3% in North America, 31.1% in Oceania, 25% in Europe, 19.1% in Asia, and 7.3% in Africa. The countries with the highest caesarean section rates are Bangladesh, Greece, Cyprus, Turkey, Brazil, Romania, Bulgaria, Poland, Hungary, USA, and China, with a rate of 58.54%. From 2007 to 2017, the percentage of caesarean sections in Indonesia increased from 6.5% to 16.4% (Islam, 2022).

Maternal, infant and child mortality rates continue to rise due to the threat of death and morbidity posed by inappropriate and unnecessary caesarean sections. Mothers may experience several side effects after cesarean section, including but not limited to: postoperative bleeding, drug allergies (including nausea and itching), surgical damage, postoperative infection, and blood clots in the uterus or abdominal cavity (Ye J, 2019; Sungkar, 2020; Hodgkin K, 2019).

Bleeding, uterine rupture, anesthesia-related problems, and higher obstetric risk in subsequent pregnancies are some of the long-term effects of Cesarean section. A number of health problems, such as allergies, asthma, type 1 diabetes, obesity, and impaired general cognitive function and academic performance, are more common in infants born by Cesarean section (Sandall J, 2018; Timor T, 2012; Betran, 2022). In addition, low-income families may find it difficult to afford complications, prolonged hospital stays, and unnecessary caesarean sections (Polidano, 2017; Shi, 2021; Cresswell, 2015; Pratilas, 2019). The rise of caesarean sections is a major problem in Indonesia due to the possible dangers faced by mothers and babies, inequality of access, and the costs involved (Abede, 2015). In Indonesia, the maternal morbidity rate was 38.3% in 2002 and 53.7% in 2012, with pregnancy-related morbidity rates of 7.2% and 13.2% in the same time period (Widyaningsih, 2017; Zahron, 2020; Hoxha, 2019; Evangelia, 2021; Samtas, 2018).

Typically, patients take six weeks to recover from the discomfort of the incision after a caesarean section. However, this timeframe can vary greatly depending on factors such as the patient's individual circumstances, the presence of problems during surgery, and the level of rest the patient needs (especially if they have young children at home). Recovery can be accelerated with light exercise such as walking; however, it is recommended that you refrain from strenuous activity and seek assistance when moving heavy objects, such as prams and car seats (NHS, 2021; Shirazi, M 2020). Patients may require pain medication for up to ten days after their caesarean section, and they will be in pain for at least a week (NHS, 2021; Verma, 2020; Basrowi, 2020; Shi, 2021).

An innovative product called "Ita Panties, CIDITA" was developed to reduce the discomfort experienced by some mothers after a caesarean section. These panties have been specially designed with octopus and magnet characteristics to help alleviate this pain. The upcoming panties have been designed to reduce the fear of using an octopus or angkin that many women experience post-cesarean

section. The panties will take inspiration from existing panties in some markets and modify their functionality to make them easier to use.

With the aim of reducing pain after cesarean section, "Ita's Undercare Panties, CIDITA" uses neodymium magnets "ND2FE14B n42 and n52" which have acupressure points on the back of the lumbar bladder 1. Medical devices that use these types of powerful magnets have recently become the focus of research. These devices help with a variety of conditions, including chronic pain syndrome, arthritis, wound healing, insomnia, headaches and magnetic resonance imaging (MRI). Preliminary data from the Bekasi District General Hospital (RSUD) shows that in 2021 there were 473 sectio caesarean births, 268 spontaneous births, 193 induced births, and 24 vacuum births. In 2022, there were 483 births, 229 spontaneous births, 220 induced births, and 4 vacuum births "Undercare Underpants Ita, CIDITA" on reducing post-sectio caesarean pain.

RESEARCH METHODS

This research design method is quantitative research using a quasi-experimental design method. The sample of this research consisted of mothers

who underwent sectio caesarea at the Bekasi Regency Hospital in April 2024. This research sample consisted of mothers who underwent cesarean section at the Bekasi Regency Hospital using purposive sampling technique and met the inclusion and exclusion criteria in data collection. The sample was divided into two groups, namely the control group who received mefenamic acid 500 mg 3x1 and the intervention group who received mefenamic acid 500 mg 3x1 together with "Undercare Underpants Ita, CIDITA". An independent sample t test and a Generalized Estimating Equation (GEE) test were used to determine the effect of overall scores from pretest, posttest 1, posttest 2, and posttest 3 on the reduction of post-sectio caesarea surgical wound pain. This research was conducted in April 2024 and has obtained ethical clearance from STIKes Dharma Husada with number: 040/KEP/KES/SDHB/B/III/2024. This research lasted for one month

RESEARCH RESULTS

Univariate analysis

Table 1
Distribution of Respondent Characteristics between Intervention and Control Groups

Variables	Control		Intervention		P-value
	N	%	N	%	
Mother's age (years)					
16-25	7	17	8	19	0,849
26-35	20	48	18	43	
36-45	15	36	16	38	
Parity					
Primi	26	62	24	57	0,349
Multi	16	38	18	43	
Mother's education					
SD	4	9	3	7	0,098
SMP	18	43	16	38	
HIGH SCHOOL	16	38	18	43	
PT	4	9	5	12	
Mother's occupation					
Labor	18	43	22	52	0,247
Office	4	9	4	10	
Not Working	20	48	16	38	
Family income					
> UMR	20	48	24	57	0,545
<= UMR	22	52	18	43	

Bivariate analysis

Table 2
Effect of using "Ita, CIDITA Underwear" on Post-Section Caesarean Pain Reduction

Variables	Duration	Control		Intervention		Mean difference	95% CI	P-value
		Mean (SD)	Median (Min:Max)	Mean (SD)	Median (Min:Max)			
Pain	Pretest	7,19	7	7,26	7			
	Day 4	(0,740)	(6:8)	(0,734)	(6:8)	-0,071	-0,392-0,249	0,658
	Posttest 1	5,33	5	4,21	4			
	Day 4	(0,874)	(3:7)	(0,898)	(3:6)	1,119	0,734-1,504	<0,001

The results showed that the use of "Undercare Underpants Ita, CIDITA" had an impact on reducing post section caesarea discomfort. The independent variable in this research was "Undercare Underpants Ita, CIDITA", which is an innovative process in caring for postpartum mothers. The dependent variable was pain score, which is the degree of pain in the mother's wound after cesarean section at the time of measurement. Confounding variables included maternal age (maternal age at the time of data collection), parity (number of pregnancies in the current pregnancy), maternal education (last formal education level), maternal occupation (maternal occupation before pregnancy), and family income (monthly income earned by the family).

The impact of various characteristics, including age, occupation, income, education and parity, on maternal discomfort after cesarean section has been demonstrated in previous studies. The experience of post-caesarean pain may be influenced by the mother's age at the time of cesarean section, as younger women may have different pain perceptions and mechanisms. Compared to older mothers, younger mothers are more likely to experience higher levels of post-caesarean discomfort, as reported by many studies (Cresswell, 2015; Abebe, 2016).

The prevalence of preoperative anxiety among obstetric patients undergoing cesarean section is 63%, as shown by studies conducted by Yonas et al, Michalina et al, and Vasile et al in post-caesarean section patients. Emergency department cases show high levels of anxiety. Anxiety correlated significantly with factors such as age, education, and exposure to anesthesia. Postpartum depression and pain were more prevalent in women who underwent cesarean section at hospital discharge, suggesting that cesarean section, especially emergency cesarean section, is a risk factor for postpartum depression (Barber, 2013; Boyle, 2013; Bobak, 2004; Arimi, 2017).

Maternal parity and previous caesarean section may increase post-caesarean discomfort in women undergoing their first caesarean section. This may be due to anatomical changes, adhesions from previous surgeries and an increased level of surgical complexity. In contrast to nulliparous or primiparous women, multiparous women who have had multiple pregnancies may experience decreased post-caesarean discomfort. This may be due to psychological preparedness, variations in pain perception during multiparous pregnancies, and previous experience with the process (Bobak, 2004; Arimi, 2017).

Research suggests that individuals with higher levels of education are more likely to experience better postoperative pain management. The effect of patient education on postoperative recovery was evaluated in this systematic review. Across regions, preoperative patient education appears to have a favorable effect on the postoperative course, specifically the duration of hospitalization, psychological status, and postoperative side effects. Women who have a higher level of education have a more comprehensive understanding of health, which improves their adherence to medication and relaxation techniques. In addition, they also have better access to health resources, including postoperative support services and prenatal care. Moreover, education level correlates with socioeconomic status and influences psychological factors such as anxiety, tension and coping mechanisms, thus facilitating improved access to health resources and infrastructure (Bobak, 2004; Arimi, 2017).

The "Pain Gate Control" theory, which states that magnets can modify sensory nerve activity to prevent pain signals from reaching the brain, is one theory that can be used to reduce pain in Ita Panties Undercare. This process can also affect blood flow in the painful area, which can facilitate healing and reduce muscle tension. The placebo effect, which

involves a reduction in subjective pain as a result of positive expectations, may also contribute to the pain-reducing effect. In addition, magnets may interact with chemical mediators, including serotonin and endorphins, which are responsible for regulating pain perception (Bobak, 2004; Arimi, 2017).

The physical demands of the job, work flexibility and leisure time, return to work time, psychosocial stressors, occupational hazards and social support at work can all influence post-cesarean pain. Increased pain intensity and recovery are potential consequences of physically demanding jobs, such as in the healthcare or manufacturing sectors. In addition, the outcome of pain management may be influenced by job flexibility and support for maternity leave. Hussen's research in Ethiopia showed that the timing of a mother's return to work can also affect pain intensity, and that a faster return to work increases discomfort. Brodersen et al. conducted a systematic review showing the potential impact of occupational hazards, psychosocial stressors and social support networks on pain management and recovery. The post-cesarean recovery process can be facilitated by providing adequate support and understanding from family members (Bobak, 2004; Arimi, 2017).

Increased family income often results in increased access to health services, including surgical interventions such as sectio caesarea and prenatal care. This can be beneficial and optimize maternal health before surgery, as sufficient income can increase access to preventive care. In addition, families with higher incomes have access to healthcare providers who have superior resources and expertise in pain management techniques. However, lower family income is often associated with high levels of psychosocial stress, which can exacerbate pain perception and hinder the implementation of effective pain management strategies (Arimi, 2017).

The duration of recovery from incision pain in post-Cesarean section patients is about six weeks; however, this depends on the individual circumstances of the patient. If the patient has young children at home and is under-rested, or if the surgery has complications, the patient may find it necessary to take additional rest. Light exercise, such as walking, can aid recovery; however, it is advisable to refrain from strenuous activity and ask for assistance when lifting large objects, such as car seats and prams (NHS, 2021; Shirazi, 2020). Patients may require pain relief for one to ten days after delivery, as they will experience pain for several weeks after a cesarean section (NHS, 2021).

The fetus is delivered through an open abdominal incision (laparotomy) and an incision in the uterus (hysterotomy) in a sectio caesarean method (Berghella, 2005). Doctors must perform a cesarean delivery, which requires an incision in all the layers separating the mother and fetus (Baltzer, 2023). The fetus cannot or should not be delivered vaginally for various reasons (Barber, 2013; Boyle, 2013; Rai, 2019).

Sectio caesarea is not associated with any obvious medical contraindications. If the pregnant patient is dead or near death, or if the fetus is dead or near death, a cesarean section is an alternative. Although there are some ideal conditions for cesarean section, such as the availability of anesthesia, antibiotics, and appropriate equipment, the absence of these conditions is not a contraindication if the clinical scenario can be ascertained (Baltzer, 2023).

The puerperium is the period that begins after the birth of the placenta and ends when the gynecological organs return to their pre-pregnancy state. The puerperium is estimated to last six weeks; however, all genitals will return to their pre-pregnancy state within three months (Prawirohardjo, 2009; Saifuddin, 2022).

Post-cesarean section care is the process of reducing discomfort associated with the surgical incision (Bobak, 2004). Pain is an unpleasant sensory and emotional experience and is the main reason for a person to seek medical care. This discomfort is caused by actual or impending tissue damage. When evaluating pain, it is crucial to consider that pain is a warning sign that tissue injury has occurred (Arimi, 2017).

Multi and primi pain are two different forms of pain. Multi pain is experienced by individuals with various underlying medical conditions, while primi pain is experienced by women during their first labor. Pain management should be tailored to the circumstances and needs of the patient in both scenarios. Basically, the use of "Undercare Underpants Ita, CIDITA" can reduce discomfort; however, in some respondents, it can contribute to increased comfort during activities.

"Undercare Underpants Ita, CIDITA" is an innovation developed to reduce the discomfort of mothers after cesarean section. These underpants have been modified to include octopus and magnet functions. Currently, many post-sectio caesarean mothers express concerns regarding the use of an octopus or angkin after surgery. Therefore, these panties have been modified to mimic the functions of octopus and panties already available in the market, thereby reducing user anxiety.

"Ita Panties Undercare, CIDITA" utilizes "ND2FE14B n42 and n52" neodymium magnets as acupuncture receptors on the back of the 1st lumbar bladder to relieve post-caesarean section pain. These magnets are a type of powerful magnets that have been the subject of recent research in the health field. These magnets have been incorporated into medical devices, such as magnetic resonance imaging devices, to diagnose and treat chronic pain syndromes, arthritis, wound healing, insomnia, headaches, and several other diseases.

The outcomes of this research show substantial results in the form of the "CIDITA" magnetic intervention for post-caesarean mothers. These outcomes are consistent with the outcomes of previous studies, which have identified magnetic stimulation as a promising approach for post-caesarean pain management. ND2FE14B neodymium magnets, which are used in biomedicine and contain iron, were used in this research. When the magnet is placed, it stimulates a reaction in the FE itself on the neodymium, so that the cells that coincide and attach to the connected tissue are broken down. This results in smoother blood flow in the mother, as the attached magnets provide warmth and the absorption of oxygen and nutrients increases. The body hormone affected by these magnets is the hormone endorphin, which reduces pain, especially post-surgery and the use of non-sterile underwear.

A meta-analysis of 17 RCT articles conducted in the past showed that the intervention group achieved more effective results than the control group in the first 7 days post-sectio-caesarea, as well as at 1 and 2 months post-sectio-caesarea. However, no differences were seen between the two groups in terms of persisting pain at 6 and 12 months post-surgery, acute opioid consumption post-sectio-caesarea, or adverse events. A Randomized Controlled Trial (RCT) was conducted at Thammasat University Hospital to evaluate the efficacy of auricular acupuncture in conjunction with or without a magnetic plate for the treatment of routine post-caesarean section pain. The outcomes showed that the insertion of magnetic plates during auricular acupuncture at Shenmen, Penqiang, and Erzhong could substantially alleviate post-caesarean pain within a period of 18-72 hours. To confirm the benefits of peripheral magnetic stimulation (PMS) interventions in post-caesarean pain management, high-quality blinded trials are required (Bobak, 2024; Arimi, 2017). This research is unique in that it shows that magnets embedded in Ita's underwear can alleviate the discomfort associated with the surgical wound post-caesarean section.

CONCLUSION

There is an effect of using "Undercare Underpants Ita, CIDITA" on reducing post-sectio caesarean wound pain.

SUGGESTION

For post sectio caesarea patients can use "Undercare Underpants Ita, CIDITA" to accelerate reducing post-sectio caesarea pain.

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