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Suprapubic Hot Pack For Recovery of Urinary Vesical Reflexes on Post Spinal Anaesthesia Patients

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Abstrak

Retensi urin setelah anestesi tulang belakang dan pembedahan berkisar antara 5%-70%, dengan laki-laki dan orang lanjut usia mempunyai risiko lebih tinggi. Hal ini terjadi karena otot sfingter uretra tidak merespon keinginan untuk buang air kecil dan pasien tidak mampu merasakan kebutuhan untuk buang air kecil. Masalah ini dapat diatasi dengan kompres panas sebagai terapi hangat pada area suprapubic. Tujuan penelitian ini adalah untuk mengetahui pengaruh terapi hot pack suprapubik terhadap pemulihan refleks vesika urinaria pasca anestesia tulang belakang. Penelitian kuantitatif ini menggunakan desain quasy eksperimen dengan pendekatan static group comparation. Populasi penelitian ini adalah pasien pasca operasi dengan anestesi spinal. Besar sampel sebanyak 60 responden dengan pengambilan sampel Accidental Sampling. Desain penelitian memiliki kelompok perlakuan dan kontrol; dan mengukur hasilnya dengan lembar observasi. Analisis uji t independen menunjukkan rata-rata waktu pemulihan vesika urin adalah 225,5 menit pada kelompok intervensi dan 295 menit pada kelompok kontrol dengan p-value (0,000) < α (0,05). Artinya terdapat pengaruh pemberian terapi hot pack suprapubic terhadap pemulihan refleks vesika urin pasca anestesi spinal. Berdasarkan hasil penelitian, terapi hangat suprapubic hot pack merupakan intervensi keperawatan yang dapat diterapkan pada pasien bedah untuk perawatan pasien pasca operasi, guna mempercepat pemulihan refleks kandung kemih pasien.

Kata Kunci: Vesika urinari; Buli-buli Panas; Anestesi Spiral; Retensi urin

Abstract

Urinary retention after spinal anaesthesia and surgery ranges from 5%-70%, with men and the elderly at higher risk. This occurs because the urethral sphincter muscle does not respond to the urge to urinate and the patient is unable to feel the need to urinate. One treatment for this problem is providing hot pack media as a warm therapy in the suprapubic area. The purpose of this study was to determine the effect of suprapubic hot pack therapy on the recovery of post spinal anaesthesia vesical urinary reflex. This quantitative study uses a quasy experiment design with a static group comparison approach. The population of this study was postoperative patients with spinal anaesthesia. The sample size was 60 respondents with accidental sampling. The research design has treatment and control groups, then measuring the results with observation sheets. Using the independent t-test for the analisys. The result showed the average recovery time of vesica urine was 225.5 minutes for intervention group and 295 minutes for control group with a p-value (0.000) < α (0.05), which means that there is an effect of suprapubic hot pack therapy on the recovery of vesica urine reflexes after spinal anaesthesia. Based on the results of this research, this procedure is an effective nursing intervention that can be applied in surgical inpatient rooms for the care of post-operative patients, especially in patients with spinal anaesthesia to speed up the recovery of the patient's bladder reflex.

Keywords: vesical urinary; hot pack; spinal anaesthesia; urinary retention

INTRODUCTION

Invasive procedures, including surgery, are used in the diagnosis and treatment of diseases and deformities (HIPKABI, 2014). According to the World Health Organization WHO, the number of surgical patients increases every year. In 2011, 140 patients were operated on worldwide, in 2012, this number increased by 148 million, and in 2017, Indonesia reached 1.2 million people (Sartika et al., 2013). Based on the 2021 survey in the operating room of the Central Surgery Department Dr. H. Abdul Moeloek Hospital of Lampung Province, the number of middle class treatments was 49 (1.48%), basic class 1621 (49.02%), and special class 1637 (49.50%). From all these categories, Dr. H. Abdul Moeloek The number of operations in Lampung province is 3307 people in 2021, an average of 276 people per month. Regarding the documentation of operation protocols in the operating room of the Central Surgery Department of Dr. H. Abdul Moeloek Lampung Province, a total of 306 people were operated on in April 2022.

Spinal anaesthesia is the maximum normally executed anaesthesia. Spinal anaesthesia is the management of nearby anaesthesia withinside the subarachnoid space. Based on statistics acquired from the post-anaesthesia care unit (PACU) after surgical operation for spinal anaesthesia sufferers at in January-March 2021, Dr. H. Abdul Moeloek recorded 147 sufferers with a mean of forty nine sufferers in keeping with month. And primarily based totally at the outcomes of interviews with anesthesiologists and reviews on using anaesthesia withinside the valuable surgical surroundings of Dr.. H. Abdul Moeloek, hospital from August to November 2022, the quantity of sufferers receiving spinal anaesthesia increased, particularly 184 sufferers and a mean of sixty two people, ensuing in an boom of 24.4%.

Medications and anaesthetic techniques in general can affect the breathing, circulation and nervous system. Glomerular filtration can be delayed due to painkillers and anaesthesia and this causes urine to decrease. These drugs will interfere with motor and sensory system stimulation that is transmitted between the bladder, spinal cord and brain (Sari et al., 2017). Spinal anaesthesia can be associated with a risk of urinary retention because patients often experience a lack of feeling like urinating after anaesthesia. Depending on the type of anaesthesia, patients can usually control urination voluntarily within 6 to 8 hours after anaesthesia. Urinary retention is known to occur in 13% of hospital patients after surgery, especially after spinal anaesthesia or surgery lasting more than 2 hours (Frayoga & Nurhayati, 2018).

Accumulation of urine due to the bladder being unable to empty its contents resulting in tension and discomfort is called urinary retention. The patient is said to have urinary retention, the bladder can hold 2,000 to 3,000 ml of urine. Obstruction factors in the urethra, post-surgery, changes in the sensory and motor nerves of the bladder, drugs can cause urinary retention which will cause anxiety (Perry and Potter, 2006) in (Frayoga & Nurhayati, 2018).

The frequency of occurrence of post-surgical retention varies, due to many factors such as location type and duration of surgical intervention, the amount of fluid administered, factors such as age and sexuality of the patient in the etiology of post-surgical retention, and the lack of common defining criteria (Simsek, 2016). 5% to 70% of cases of urinary retention often occur. Men tend to be at risk of post-operative urinary retention (POUR) (4.7%) compared to women (2.9%). In a nationwide follow-up study conducted in Sweden, anesthesiologists reported a higher prevalence of epidural morphine (38%) compared to intrathecal morphine (13%) (Sari et al., 2017).

Apart from causing person discomfort, in accordance to Simsek (2016), urinary retention can damage the bladder with intense growth and might cause continual nephropathy, sepsis, atony of the bladder wall. Actions to prevent urinary retention after spinal anaesthesia include fluid restriction, early mobilization, warm compresses in the suprapubic area, and the use of short-acting spinal anaesthetic drugs (Anggraini et al., 2021). Hot compress therapy is also carried out during the post-operative recovery period. The aim of hot compress therapy is to satisfy the need for comfort, relieve or eliminate pain, reduce or prevent muscle spasms, and create a feeling of warmth (Sopiyatun, 2018).

Research by Sari et al., (2017) at PKU Muhammadiyah Hospital in Yogyakarta, showed that the incidence rate was as high as 20% or 30 patients affected by urinary retention in patients who had urinary catheters installed. Therefore, to reduce the risk of urinary retention, non-pharmacological treatment is needed, for example warm compresses. A warm compress can be applied with a temperature of 45-50.5°C.

METHODS

This research is quantitative with the research method used is quasi-experimental. The population in this study were post-operative patients with spinal anaesthesia at RSUD. Dr. H. Abdul Moeloek Lampung Province in 2023. The sample in this study was 60 respondents as the medium curve requirement for each group. Therefore, the number of samples used in this research was 60 respondents (30:30) for the control and intervention groups. This research was conducted at RSUD Dr. H. Abdul Moeloek Lampung Province. This research was conducted in March-April 2023.

Research procedures

In the Intervention group:

a. Researchers identified patients who met the inclusion criteria, including an explanation of the research objectives and research procedures carried out, if they were willing to participate in this research, the subjects signed informed consent.
b. After the patient agrees with the inclusion criteria, the researcher provides an explanation of how the research procedures were carried out, then they are given therapy after which the researcher evaluates them using an interview.
c. For patients who met the inclusion criteria, researchers provided 300 cc of mineral water to drink.

d. After giving the drink, the researcher intervened by giving warm compress therapy using a hot pack with a temperature of 45°c for 20 minutes according to the SOP.
e. Then the researchers carried out evaluations every 45 minutes on the respondents and recorded the time they urinated.

In the control group:

a. Researchers identified patients who met the inclusion criteria, including an explanation of the research objectives and research procedures carried out, if they were willing to participate in this research, the subjects signed informed consent.
b. After the patient agreed to the inclusion criteria, the researcher asked the patient's readiness to take part in the study.
c. In the control group patients who had their catheter removed, researchers gave them 300cc of mineral water to drink.
d. Then the researchers carried out evaluations every 45 minutes on the respondents and recorded the time they urinated.

Data analysis

The bivariate analysis used in this research was the independent sample T test. The independent variable in this study was the provision of suprapubic hot packs. The dependent variable in this study is the recovery of urinary bladder reflexes in patients after spinal anaesthesia. Probability (value) <a (0.05) means that there is an effect on bladder recovery after surgery with spinal anaesthesia in patients who underwent warm therapy using a hot pack at a temperature of 45° Celsius. Probability (value) > a (0.05) means there is no effect on bladder recovery after surgery with spinal anaesthesia in patients who received warm therapy using a hot pack at a temperature of 45° Celsius. The research is ethically sound with the ethically sound number: No.147/KEPK-TJK/II/2023 which is valid from 21 February 2023 to 21 February 2024 by KEPK Tanjungkarang Health Polytechnic.

RESULT

The research was conducted on 60 respondents with a history of post-operation with spinal anaesthesia with 30 respondents in the control group and 30 respondents in the intervention group. The criteria and characteristics of respondents in this study are known from the respondent's gender, age, type of operation, and length of operation.

Tabel 1. Respondents based on age, gender, the type and the duration of surgery

	Intervention group		Control group	
Age	**n**	**%**	**n**	**%**
17 – 25 Years	9	30,0	8	26,7
26 – 35 years	8	26,7	9	30,0
36 – 45 years	5	16,7	8	26,7
46 – 55 years	7	23,3	3	10,0
56 – 65 years	1	3,3	2	6,7
Gender				

Male	17	56,7	15	50,0
Female	13	43,3	15	50,0
Type of surgery				
General Surgery	17	56,7	14	46,7
Orthopaedics	6	20,0	9	30,0
Urology	7	23,3	7	23,3
Duration of Surgery				
<60 minutes	20	66,7	22	73,3
>60 minutes	10	33,3	8	26,7

In table 1, it was seen that 17 (56.7%) patients in the intervention group were male, and in the control group the gender was the same, namely 15 (50%) male and 15 (50%) females. Characteristics of respondents according to age in the intervention group were mostly in early adolescence (17-25 years) as many as 9 (30%) people, and in the control group most of the age characteristics of respondents were early adulthood (26-35 years) as young as 9 (30%). The characteristics of respondents according to the type of surgery in the intervention group were mostly general surgery with 17 (56.7%), orthopedics 6 (20%) out of 30 (100%), urology 7 (23.3%) while for the control group the characteristics of respondents were based on Types of surgery were general surgery 14 (46.7%), orthopedics 9 (30%) and urology 7 (23.3%). The characteristics of respondents according to the duration of surgery in the intervention group were mostly <60 minutes, 20 (66.7%), and for the control group, the majority were <60 minutes, 22 (73.3%).

Tabel 2. Respondents' urinary vesicle reflex recovery time in intervention and control groups

Intervention	Mean	Median	Std	Min-Max
group	225,5	232,5	61.02	95-330
Control	Mean	Median	Std	Min-Max
Group	295	290	57.43	183-445

Based on Table 2 above, it can be seen that the minimum time for vesicle reflex recovery was 95 in intervention group and 183 in control group. While the maximum time for the vesicle reflex to recover was 330 in intervention group and 445 in control group.

Tabel 3. Analysis of the effect of suprapubic hot pack on urinary vesicle reflex recovery

Group	n	Mean	Std.	p-value
Intervention	30	225,5	61.023	0.000
Control	30	295,0	57.432	

Independent sample t- test results showed that the mean time to bladder recovery in the intervention group was 225.5 minutes and 295 minutes in the control group. There is a significant difference in the average bladder recovery time of the control group and a p-value = 0.00 is obtained, which means that the p-value is <0.05.

DISCUSSION

Urinary Vesicle Reflex Recovery Time Intervention Group

The average recovery of the urinary bladder reflex in the intervention group with the treatment of suprapubic hot pack therapy was 225.5 minutes. The data variance for recovery of the urinary reflex in the intervention group was 61.02 and the time required for recovery was minimum 95 minutes and maximum 330 minutes. According to (Kozier, 2010), bladder reflex recovery is faster in patients who receive suprapubic hot compress therapy.

Warm compresses can provide sensory stimulation that helps clients relax in the abdominal muscle area. The success of warm compresses with hot compresses can speed up post-operative recovery (Kozier, 2010). According to the researchers, this is happened because the group treated with the suprapubic hot pack experienced widening of the blood vessels in the therapy area, which resulted in faster recovery of the urinary bladder reflex and reduced effects of spinal anaesthesia.

Urinary Vesicle Reflex Recovery Time in Control Group

Based on the results, the average bladder recovery in the control group without suprapubic hot pack treatment was 295 minutes, the variance of the bladder recovery in the control group was 57.43, the recovery in the control group was group who did not receive treatment. Recovery time for bladder reflex suprapubic is a minimum of 183 minutes and a maximum of 445 minutes.

There are several things that can influence a client's ability to urinate, including age, psychosocial factors, fluid and food intake, medications, muscle tone, pathological conditions, surgical procedures (Kozier, 2010). Gender affects elimination because men's urethra is longer than women (Diyono, 2019). According to the researchers, urine output results in the group that did not receive a heat bag were influenced by sex, age, type and duration of surgery and were still classified as normal, with an average recovery of <8 hours.

The Effect of Suprapubic Hot Pack Therapy on the Recovery of the Urinary Vesicle Reflex

Statistical testing between the two variables by processing using an independent t-test, it was found that p-value = 0.00, so Ho was rejected, this shows that there was an influence of providing

suprapubic hot-pack therapy on the recovery of the urinary bladder after surgery with spinal anaesthesia at Dr. H. Abdul Moelok in 2023.

Recovery of the urinary bladder occurs due to the heat effect of a hot pack given in the suprapubic area which stimulates circulation by dilating the blood vessels, improving blood circulation in the tissue resulting in a reduction in muscle tension as a result of surgery and anaesthesia with spinal anaesthesia. The results of this study are in line with the theory of Kozier (2010) that the actions used to treat urinary retention are the administration of cholinergic medication (Urecholine), suprapubic warm compresses, creed manoeuvres, and catheter placement. Supported by theory from Anggraini et al., (2021), actions to prevent urinary retention after spinal anaesthesia include fluid restriction, early mobilization, warm compresses in the suprapubic area, and the use of "short-acting" spinal anaesthesia. During the post- operative recovery period, hot compress therapy is also carried out which aims to fulfill the need for comfort, relieve or eliminate pain, reduce or prevent muscle spasms, and create a feeling of warmth (Sopiyatun, Faridah Aini, 2018).

According to Simsek (2016) intervention to prevent post-surgical retention and when it develops, micturition must be realized These include applying a hot water bag to the patient's pelvic area, pouring warm water on the patient's perineum to increase muscle relaxation and urination. Warm compresses will use hot pack media in the symphysis pubis area. Increased blood flow is expected to dilate the afferent arterioles and increase blood flow to the glomeruli thereby increasing GFR and facilitating urine flow.

This research is in line with a study by Sari et al. (2017), in a group of 40 respondents consisting of 20 people in the treatment group and 20 people in the control group, it was found that bladder reflex recovery took <8 hours for 16 of the 20 respondents in intervention group, while in the control intervention group. In only 9 of the 20 respondents in the intervention group, bladder reflexes returned in less than 8 hours in 20 people. The chi-square results showed a p-value of 0.002 < 0.05, indicating that there was an effect of using suprapubic warm compresses on the return of bladder reflexes in patients after spinal anaesthesia at RSU PKU Muhammadiyah Bantul.

In addition, in a study by Angraini et al. (2021), 30 respondents operated under spinal anaesthesia were divided into a treatment group of 15 and a control group of 15. The procedure

performed in the treatment group was warm compression (warm compression) after 2 hours of treatment, which was done 3x1 for 10 minutes. However, the results found later in the treatment group with the emotional category showed that 15 respondents felt a strong urge to urinate when the bladder was full, while 11 respondents in the control group felt a strong urge to urinate when the bladder was full. to urinate when the bladder was full. urine is full. were full and another 4 respondents in the comparison group felt the need to urinate with a full bladder, but this feeling came and went. However, Mann-Whitney test was used for data analysis results with p-value = 0.033 andlt; 0.05.

According to the researchers, the administration of suprapubic heat pack therapy restores bladder reflexes in post-spinal anaesthesia patients compared to post- spinal surgery patients who did not receive suprapubic heat pack therapy to restore bladder reflexes. The researchers speculate that the bladder recovery experienced by the respondents was due to the suprapubic heat pack. Treatment with hot packs reduces muscle tension, which causes blood vessels to dilate, which improves circulation and capillaries. This effect will dilate the afferent arterioles and increase blood flow to the glomeruli, thereby increasing the glomerular filtration rate, thus facilitating urine production.

The results of this study and the characteristics of the respondents are well correlated. In the intervention group, gender characteristics were predominantly male, 17 (57%) respondents, and in the control group there were equal numbers of men and women, namely 15 (50%) male respondents and 15 (50%) female respondents. Gender can influence elimination. It is known that men have a higher risk of urinary retention due to the longer structure of the urethra (Diyono 2019). Researchers believe that gender affects the bladder reflex according to the anatomical structure of the urethra. The length of the urethra in women is shorter, that is, it is shorter. 3.7 cm, while in men it reaches 20 cm, so the risk is higher in men from urinary retention.

Based on table 1, it is known that the highest age proportion for the intervention group was late adolescent respondents (17-25 years), namely 9 respondents (30%), and in the control group were early adults with a range of 26-35 years, namely 8 respondents (27%). Kidney function in excreting residues decreases with increasing age, but does not decrease significantly to below normal levels unless disturbed by a disease process. Blood flow may be reduced due to arteriosclerosis, which impairs kidney function (Kozier, 2010). As we age, the number of functioning nephrons decreases by

several degrees, impairing the filtering ability of the kidneys. It was concluded that the majority of ages influenced the length of recovery of the urinary bladder reflex but not below normal levels.

For the characteristics of the type of operation and duration of operation, the characteristics of respondents according to the type of operation in the intervention group were mostly general surgery with 17 (56.7%), orthopaedics 6 (20%), urology 7 (23.3%) while for the control group the characteristics respondents based on type of surgery, namely general surgery 14 (46.7%), orthopaedics 9 (30%) out of 30 (100%), and urology 7 (23.3%). The characteristics of respondents according to the duration of surgery in the intervention group were mostly <60 minutes, 20 (66.7%), and for the control group, the majority were <60 minutes, 22 (73.3%). The type of operation, anaesthetic medication and the duration of the operation can affect urination and the risk of Post-Operative Urine Retention (POUR) (Sari et al., 2017).

Based on the results of this research, it is hoped that it can become a nursing intervention that can be applied in surgical inpatient rooms for the care of post-operative patients, especially in patients with spinal anaesthesia to speed up the recovery of the patient's bladder reflex. And follow-up from the hospital to create a Standard Operating Procedure (SOP) for the use of hot packs in the treatment room.

CONCLUSION

The results p-value of 0.000 (p-value < 0.05) showed from the independent t-test analysis, so it can be concluded that there is an effect of suprapubic hot pack therapy on the recovery of urinary bladder reflexes after spinal anaesthesia at Dr. H. Abdul Moeloek in 2023. It is hoped that these results can become one of the nursing interventions that can be applied in surgical inpatient rooms for the care of post-operative patients, especially in patients with spinal anaesthesia to speed up the recovery of the patient's bladder reflex. And follow-up from the hospital to create a Standard Operating System (SOP) for the use of hot packs in treatment rooms.

REFERENCES

Anggraini, T. M., Hamarno, R., & Wulandari, E. (2021). Pengaruh Pemberian Kompres Hangat (Hot-Pack) Terhadap Pemulihan Kandung Kemih Post Spinal Anestesi Di RSUd Ngudi Waluyo Wlingi. Journal Of Applied Nursing (Jurnal Keperawatan Terapan), 7(2), 144–149.

Anna Millizia, Julia Fitriany, D. A. S. (2020). Faktor- Faktor Yang Berhubungan Dengan Post

Anesthetic Shivering Pada Pasien Anestesi Spinal Di Instalasi Bedah Sentral PPK BLUD RSUD Cut Meutia Aceh Utara.

Arovah, N. I. (2016). Fisiologi Olahraga (1st Ed.). EGC.

Diyono, S. M. (2019). Buku Ajar Keperawatan Medikal Bedah (3rd Ed.). Salemba Medika.

Djamaluddin, D., & Asianti, S. (2019). Pengaruh Kompres Hangat Terhadap Reflek Pembakaran Pasca Operasi Usia Pria. 1–5.

Dosbon, M. . (2012). Penuntun Praktis Anestesi. Jakarta. E G C.

Frayoga, F., & Nurhayati, N. (2018). Pengaruh Mobilisasi Dini Terhadap Pemulihan Kandung Kemih Pasca Pembedahan Dengan Anastesi Spinal. Jurnal Ilmiah Keperawatan Sai Betik, 13(2), 226–233.

HIPKABI. (2014). Buku Pelatihan Dasar-Dasar Keperawatan Bagi Perawat Kamar Bedah. HIPKABI Press.

Kozier. (2010). Buku Ajar Fundamental Keperawatan Konsep. EGC.

Nurjanah, S. (2016). Keefektifan Kombinasi Terapi Panas Dan Dingin Dengan Terapi Panas , Terapi Dingin Terhadap Cedera Otot Hamstring Pendahuluan Cedera adalah kelainan yang terjadi pada tubuh yang mengakibatkan timbulnya nyeri , panas , merah , bengkak dan tidak ligamen , pe. 1–13.

PPNI, T. P. S. (2017). Standar Diagnosis Keperawatan Indonesia (1st ed.). DPP PPNI.

Sari, W. A., Ekwantini, R. D., & Prayogi, A. S. (2017). Pengaruh pemberian kompres hangat suprapubik terhadap pemulihan reflek vesica urinaria pada pasien post spinal anestesi di RSU PKU Muhammadiyah Bantul. Jurnal Teknologi Kesehatan, 13(2), 94–99.

Sartika, Suarnianti, S., & Ismail, I. (2013). Pengaruh Komunikasi Terapeutik Terhadap Tingkat Kecemasan Pada Pasien Pre Operasi Di Ruang Perawatan Bedah Rsud Kota Makassar Tahun 2013.

Simsek, Y. Z. (2016). Postoperative Urinary Retention and Nursing Approaches. 9(2), 1154–1161.

Sopiyatun, Faridah Aini, Y. S. (2018). Pengaruh Pemberian Kompres Hangat Terhadap Pemulihan Reflek Berkemih Pada Pasien Post Operasi Ekstremitas Bawah Dengan Spinal Anestesi Di Ruang Rawat Inap Bedah Umum RSUD Tugurejo Semarang.