

Training Effect on Pain after Kegel Colporrhaphy Surgery

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Article information	Abstract
<p>Article history: Received: 10 Oct 2010 Accepted: 12 Mar 2012 Available online: 28 Oct 2012 ZJRMS 2013; 15(2): 51-54</p> <p>Keywords: Kegel exercise Pain Surgery colporrhaphy</p> <p>*Corresponding author at: Department of Nursing, Faculty of Paramedicine, Yasouj University of Medical Sciences, Yasouj, Iran E-mail: mobarakiasea@yahoo.com</p>	<p>Background: Colporrhaphy is a common surgical operation in women. There are many problems in this disease such as pain, lack of effective pain control, unpleasant psychological and physiological effects, etc. this study was conducted with the aim of analyzing the effect of the Kegel exercises as noninvasive relaxation methods on alleviating pain subsequent to conducting colporrhaphy operation.</p> <p>Materials and Methods: The present study was a clinical trial, randomized and double-blind study which was conducted on 64 patients who had undergone colporrhaphy operation in 2009. Our samples were divided into two groups. Kegel exercises were used in case group before surgical operation in order to alleviate pain while routine cares were used in the control group. The severity of pain, volume of narcotic consumption, and frequency of narcotic consumption during first 48 hours were studied. The data were analyzed with SPSS-12 software and student <i>t</i>-test.</p> <p>Results: According to Visual Analogue Scale (VAS), the mean pain severity after surgical operation in two case and control groups stood at 5.9 ± 0.8 and 7.9 ± 0.5, respectively. In the meantime, the average frequency of drug consumption stood at 4.09 ± 1.03 times, the average amount of drug consumption in the case and control groups stood at 47.4 ± 46.9 and 154.7 ± 51.4 mg, respectively. The above results were statistically significant ($p=0.05$).</p> <p>Conclusion: Using Kegel exercises after Colporrhaphy surgical operation is associated with less pain and frequency and amount of drug consumption has been distinguished less. It is recommended to use Kegel exercises as a noninvasive and non-pharmaceutical method in order to reduce pain after colporrhaphy operation.</p> <p>Copyright © 2013 Zahedan University of Medical Sciences. All rights reserved.</p>

Introduction

Pain is one of the most common medical problems that nurses face it in the field of clinical cares. In medical profession, it is always tried to resort to different ways in order to control and alleviate pain. Pain is a general symptom of almost all diseases and is relatively specifies a factor which compels patient to medial considerations. Lack of effective pain control in patients with pelvic cause emergence of unpleasant psychological and physiological effects and will impose irreparable economic damage to society and patient.

Colporrhaphy is of common surgical operation in women. Since pelvic floor prolapse constitute 400,000 surgical operations annually in the United States of America and its prevalence is reported 2.1 per thousand women, prevalence of severe uterine and vaginal prolapse is reported 24 percent. In the same direction, prevalence of anterior and posterior wall prolapse is reported 51 and 27 percent, respectively.

Vaginal delivery is the most common cause which damage pelvic floor muscles. Anterior and posterior colporrhaphy operation is conducted in order to repair cystocele and rectocele in anterior and posterior part of patients as a result of colporrhaphy surgical operation colporrhaphy operation is caused by the incisions of cystocele and rectocele .

The said pain is distressing patient more than anything else. Application of narcotic drugs and powerful painkiller is of the palliative methods prescribed for these patients suffering from pain. Also, noninvasive, non-therapeutic and nursing methods can be used for alleviation of pain In the present study, researchers made up their mind to apply Kegel exercises (prenatal and pelvic floor muscles) using Sizbath for reducing pain in patients.

This method was presented in 1948 by Kegel for improving and correcting atrophy of pelvic floor muscles. It should be noted that these sport exercises are conducted for 60 times in a day (10 second contraction of muscle and 10-second rest of muscles) in order to safeguard natural anatomic situation of pelvic. Alleviating pain and reducing feeling of heaviness in pelvis is the useful objectives of this exercise. These exercises help resistance of perineum muscles power and floor muscles of pelvic areas.

In the same direction, these exercises help easy warding off the urine and feces in patients. These exercises also have other benefits for treating women suffering from pelvic floor irregularities. The studies carried out in this field in other countries show that involuntary attack reduction of urine after exercising stood at 60-62 % and

even 77-82 %. Various studies were conducted in the field of effect of Kegel exercises and its effect in alleviation of pain. Doing exercise has been emphasized and reiterated in many cases in order to alleviate the pain in patients suffering from the aforementioned disease .

Impact of Kegel exercises on pain after conducting anterior and posterior colporrhaphy operation in women referring to the operating room is the main aim of this study. If the said exercise is found effective, this method will be used in the field of alleviating pain with non-pharmacological methods.

Materials and Methods

This study was conducted as double-blind clinical trial basis randomly in patients who has referred for colporrhaphy surgical operation (anterior and posterior). The number of samples for case and control groups was estimated 32 and 32 respectively due to the type and objective of the study .

The two groups were equal in terms of age, literacy, number of vaginal deliveries and Body Mass Index (BMI). Before the intervention and how to implement the goals of the research, all patients were briefed and fully informed on the details and finally, satisfied patients entered the study. Kegel exercises were trained to the patients in case group before undergoing surgical operation. While using Sitsbaths, patients contracted pelvic floor muscles 10 times slowly and they held for a period of 10 seconds in each-time contraction. Patients had to do the exercise voluntarily at least 6-8 times in a day and were recommended to do exercise even up to 60 times in a day in bed with keeping loose abdominal muscles and gluteal muscles. Moreover, they also were recommended to add frequency of repetition of exercise in a day.

Necessary explanations and training were offered to all patients in both groups, i.e. case and control groups, through using training pamphlets and interview in the field of visual analogue scale (VAS). It should be noted that VAS was considered as a tool to measure pain which observes requirements of international standards. The VAS was set in a diagram as long as 10 cm which its beginning and end points is measured zero and 10, respectively. No pain and maximum pain (VAS) was measured with zero and 10 cm respectively .

After surgical operation, both groups were asked to record degree of pain in the related form six hours after operation and then after 18, 24 and 48 hours. Moreover, they were asked to record rate of analgesic dose after 48 hours after surgical operation. After complete accumulation of data, they were analyzed using SPSS-12 software and descriptive statistics (mean, standard deviation, relative and absolute frequency) and inferential (independent *t*, χ^2 and Pearson tests).

Results

Both case and control groups stood at 43.22 ± 6.8 and 41.8 ± 8.5 in terms of average variables which was not

significant in terms of statistical tests. In the same direction, significant difference was not observed in both groups in terms of BMI, number of delivery and also literacy level (Pearson test). In terms of mean and standard deviation of pain after surgical operation for both case and control groups within 6 hours after the operation stood at 9.13 ± 2.55 and 9.7 ± 0.64 respectively which had not significant difference ($p=0.25$).

Independent t-test stood at 8.18 ± 1.32 and 9.43 ± 1.60 in terms of mean and standard deviation of pain after surgical operation of both case and control groups within 18 hours after the operation respectively, showing significant difference statistically. ($p=0.05$). The said figure stood at 7.7 ± 1.94 and 5.80 ± 1.88 in terms of mean and standard deviation of pain after surgical operation of both case and control groups within 24 hours after the operation respectively, showing significant difference statistically ($p=0.05$). The mentioned figure stood at 4.75 ± 2.89 and 3.3 ± 2.4 in terms of mean and standard deviation of pain after surgical operation of both case and control groups within 48 hours after the operation respectively, showing significant difference statistically ($p=0.05$). The rate of narcotic analgesics intake after surgical operation of both case and control groups within first 6 hours stood at 25.62 ± 6.54 and 16.50 ± 4.68 mg respectively, showing significant difference statistically ($p=0.001$).

Table 1. Distribution of frequency of studied units according to the severity of pain in two groups

Pain intensity (VAS score)	Study group Frequency (%)	Control group Frequency (%)
<3	13(41)	0(0)
3-7	19(09)	3(9)
7.1-8	0(0)	19(59)
8.1-9	0(0)	10(32)
9.1-10	0(0)	0(0)
total	32(100)	32(100)

Table 2. Distribution of frequency of studied units according to the frequency of drug application in two groups

Frequency of narcotic use	Study group Frequency (%)	Control group Frequency (%)
0	13(41)	0(0)
1	10(31)	1(2)
2	7(22)	0(0)
3	2(6)	7(22)
4	0(0)	13(41)
5	0(0)	9(29)
6	0(0)	2(6)
total	32(100)	32(100)

The rate of narcotic analgesics intake after surgical operations of both case and control groups within first 18 hours stood at 47.09 ± 7.92 and 18.52 ± 5.5 , respectively, showing significant difference statistically ($p=0.001$). The mentioned figure stood at 7.79 ± 5.22 and 30.42 ± 2.25 mg in terms of analgesics intake after surgical operation of both case and control groups within first 24 hours respectively, showing significant difference statistically ($p=0.0004$). The mentioned figure stood at 48.34 ± 1.2 and 30.39 ± 3.34 in terms of analgesics intake after surgical

operation of both case and control groups within first 48 hours respectively, showing significant difference statistically ($p=0.01$). Percent of frequency is shown in Table 1 according to the severity of pain in both case and control groups after Kegel exercises and abusing drug. The Frequency of drug application in both case and control groups is shown in Table 2 after Kegel exercises.

Discussion

With due observance to the results, severity of pain in the case group, who were doing pelvic floor muscle exercises after surgical operation, was less than the control group. In a study, Renzi et al. showed that pain in case group has been alleviated significantly less than the control group through using techniques of image guided or relaxation during colorectal surgical operation of pain. Another study showed that relaxation has caused reduction of pain remarkably after hysterectomy surgical operation of gallbladder. Meanwhile, Davies et al. showed that internal sphincter spasm and muscles around the rectum play a leading role in reduction of pain in patients. Thus, exercises of muscles in vagina and rectum area will keep muscles loose and also reduce pain remarkably. The results of the said study are consistent with the present study.

The results of study did not shown any difference in both groups with relation to the mean comparison of pain severity in the early hours, because, patient is tolerating unconsciousness in the early hours up to 6 hours and his or her power has been declined and is not ready to do exercises sufficiently. But when patient became conscious after surgical operation, he/she can do exercise gradually, in which, patient can feel less pain in case group than the control group within 18, 24 and 48 hours after operation. It should be noted that increasing preparedness and making decision to alleviate pain will cause better response to the severity of the pain. In their study, Motavaselian and Farnia put perineal episiotomy effect on reduction of pain in Kegel exercises at 2.42 and 3.88 in both case and control group respectively within first two

hours of the pain. The mentioned figure was reduced gradually in the next visits and finally, patients felt very less pain in their last visit. In other words, pain was alleviated significantly in the final step.

Another study showed that patients who conducted Kegel exercises after hemorrhoid operation in case group felt less pain than the control group in 8, 12, 19 and 24 hours. The results showed that there is significant difference between two case and control groups in terms of analgesics drug application.

In another study, Wang et al. showed that groups receiving TENS in case group received strong paregoric than the control group in abdominal surgery. Similarly, another study done by Chiu et al. in the field of effect of TENS on reduction of pain after cesarean surgery, they showed that TENS has decreased 50% of drug application and also has reduced pain noticeably. Generally speaking, TENS played an important role in alleviation of pain in different surgeries. With studying the extant results, it can be concluded that case group showed less pain than the control group in different surgical operations using Kegel exercises. Since there is a relationship between exercises of pelvic floor muscles and alleviation of pain, it is highly recommended to use a non-pharmacological, simple, easy and optimized way in order to treat patient rapidly. It is also proposed to consider higher and more sample size in the subsequent studies.

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Authors' Contributions

All authors had equal role in design, work, statistical analysis and manuscript writing.

Conflict of Interest

The authors declare no conflict of interest.

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