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RESEARCH ARTICLE

EFFECT OF DRY CUPPING THERAPY AT ACUPOINT BL23 ON INTENSITY AND QUALITY OF POSTPARTUM LOW BACK PAIN

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ABSTRACT

Aim: Aim of the study is to determine the effectiveness of dry cupping therapy at acupoint BL23 on intensity and quality of postpartum low back pain among postnatal mothers in a selected hospital of New Delhi.
Setting and Design: A quantitative experimental research, using pre test pot test control group design was used and study was conducted in Swami Dayanand Hospital, New Delhi.
Sample and Sampling: 60 samples were taken using purposive sampling technique.
Methods: Structured questionnaire and Short Form Mc Gill Pain Questionnaire was used to collect data regarding demographic variables, clinical profile of postnatal mothers and intensity and quality of postpartum low back pain among postnatal mothers.
Result: In this study findings revealed that the mean intensity of low back pain reached from 8.33 before the intervention to 1.97 after 3 days of intervention and according to Short Form Mc Gill Pain Questionnaire the mean SMPQ Scores also reduced from 29.83 to 4.9. The results showed significant difference between the observations.
Conclusion: Thus, it was found that dry cupping therapy is effective reducing the intensity and improving the quality of postpartum low back pain.

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INTRODUCTION

Childbirth is one of the most marvelous and memorable segment in a woman's life. It does not really matter if the child is the first, second or the third one. Each experience is unique and calls for a celebration (Nethravathi, 2015). Even though the labor event gives pleasure for the mother it also gives severe pain. Most of the mother experiences some amount of discomfort after the delivery (Nethravathi, 2015). Pain is an unpleasant sensation that can range from mild to severe. Pain has both physical and emotional components. Pain is inevitable, unexpected and there is no fixed time or interval for pain, however, there are many remedies to reduce pain (Katonis *et al*., 2011). There is a high intensity of pain during pregnancy, labor and following delivery. During pregnancy, the expanding uterus stretches and weakens the abdominal muscles and alters the posture, putting strain on the back (http://www.babycenter.com/0_postpartum- back-pain-how-to-get- relief_1152191.bc). Pregnancy related low back pain is a common complaint among antenatal and postnatal women. It can potentially have a negative impact on their quality of life (Marzieh Akbarzadeh *et al*., 2014). Low back pain during pregnancy is very similar to lumbar pain experienced by women who are not pregnant and appears as pain over around the lumbar spine, above the sacrum (Katonis *et al*., 2011). A postpartum period is the period beginning immediately after the birth of a child and extending for about six weeks. Postpartum period is also referred to as puerperal period or puerperium (Dutta, 2014). Marked anatomic and physiologic changes occur during this period as the processes undergone during pregnancy are reversed (Raman, 2013). Even though many biophysical processes have returned to pre pregnancy state by the end of 6 weeks postpartum, it may take months for the women's functional status and role performance to return to "normal" (Raman, 2013). There is a plethora of postpartum ailments like, after pains which is an infrequent, spasmodic pain felt in the lower abdomen after delivery for a variable period of 2-4 days, pain on the perineum, anemia, irregular vaginal bleeding, leucorrhea, backache which is mostly due to sacroiliac or lumbosacral strain. Backache over the sacrum is likely due to pelvic pathology, but if it is over the lumbar region, it might be due to an orthopedic condition and is often relieved by physiotherapy and other measures (Dutta, 2014).

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Pregnancy related low back pain is a common complaint among antenatal and postnatal women. There are several methods to reduce backache like conservative management of low back pain is a treatment of choice, physiotherapy, stabilization belts**,** nerve stimulation**,** pharmacological treatment**,** complementary and alternative medicine (CAM) such as acupressure and cupping therapy**,** postpartum exercise**,** massage**,** relaxation techniques, etc (Marzieh Akbarzadeh *et al*., 2014). Cupping therapy is one of the CAM branches applying to most pain conditions as a traditional medical technique of European, Asian, and Middle Eastern cultures. It is in fact a type of physical therapy which is applied by the specialists of acupuncture or other individuals (Marzieh Akbarzadeh *et al*., 2014; Bhat, 2013).

In cupping therapy the therapist need to identify different acupuncture points for different types of pain. For low back pain BL23 is an identified acupunture point. BL23 point or Shenshu is selected for reducing postpartum low back pain by applying Cupping therapy. This point is located 1.5 cun lateral to the posterior midline, between L2 and L3, thereby providing the opportunity for appropriately placing the cups on a flat space. This point has been utilized in treatment of pain syndromes, such as swelling of low back and knees, genital pain, and gynecological disorders including infertility, irregular menstruation, chronic vaginal discharges and insomnia (Marzieh Akbarzadeh *et al*., 2014). Moreover, dry cupping therapy involves stimulation of the skin by suction. In this method, a partial vacuum is produced by heat production within the cupping glass after it is applied to the skin or by modern manual vacuum pump (Marzieh Akbarzadeh *et al*., 2014; Bhat, 2013). Cupping causes the tissues beneath the cup to be drawn up and swell, and an increase in blood flow to the affected area. This enhanced blood flow under the cup draws impurities and toxins away from the nearby tissues and organs to the skin, from where they are expelled.

The release of vacuum redirects toxic blood that had pooled at the site and redirects it to the other areas of the body, thus allowing fresh blood to replace it. This facilitates the healing process. In dry cupping therapy plastic cups are placed over the selected acupuncture point and vacuum is created using manual vacuum pump and it is left in its place for 10-15 minutes. Localized and deep tissue healing takes place. In dry cupping therapy the toxins are brought to the underlying skin and thus reduces toxicity over the affected site and thus reduces the pain (Izharhul, 2015). Glass, silicone or plastic cups are used for cupping therapy. Studies suggested that dry cupping therapy has been effective in treating and reducing the postpartum low back pain of postnatal mothers (Marzieh Akbarzadeh *et al*., 2014; Bhat, 2013).

MATERIALS AND METHODS

A formal administrative permission was obtained from the administrative authority to conduct the study. The study was conducted in Postnatal Ward of Swami Dayanand Hospital, New Delhi from 25th October 2016 to 17th November 2016. Informed consent was taken from the postnatal mothers.

Sample and Sampling technique: A total of 60 patients who were suffering from postpartum low back pain were selected using purposive sampling technique and the postnatal mothers were assigned to experimental and control group. Confidentiality of their identity and responses were assured.

The postnatal mothers suffering from Postpartum low back pain were screened based on the inclusion and exclusion criteria using VAS and then Sixty postnatal mothers out of the total postnatal mothers suffering from low back pain were enrolled for the study. A consent form was signed by the postnatal mothers suffering from postpartum low back pain after explaining the whole procedure to them to gain confidence and to reduce their anxiety.

Tools

The tool was prepared by reviewing various literatures as mentioned above. A detailed discussion was held with 9 experts in field of Nursing on the objectives of the study to draft the tool for the study to collect information from the subjects.

Tool 1: Socio demographic data and clinical profile of postnatal mothers will be collected using a structured questionnaire.

Tool 2: Intensity and Quality of postpartum low back pain will be assessed using Standardized Short Form Mc Gill Pain Questionnaire.

Procedure

Postnatal mothers were allocated to experimental group to receive dry cupping therapy at acupoint BL23 and to control group to receive regular postpartum care. Pretest scores of intensity and quality of postpartum low back pain were recorded of postnatal mothers in experimental as well as control group before intervention using Short form Mc Gill Pain Questionnaire. Dry cupping Therapy was administered to postnatal mothers in experimental group at BL23 point (Bladder acupuncture point situated 1.5 cun lateral to the posterior midline, between L2 and L3) in which plastic cups were placed at the mentioned acupuncture point and vacuum was created using manual vacuum pump attached to the cups. The vacuum created inside the cups helps in reducing the pain.

Dry cupping therapy was continued for 15 minutes and was administered 3 times in a day for consecutively 3 days to the postnatal mothers in experimental group. Post test scores of intensity and quality of postpartum low back pain were assessed 3 days after administering dry cupping therapy. Post test scores of intensity and quality of postpartum low back pain were recorded of both experimental as well as control group. The Pre test and post test scores of experimental group were compared to find out if there is any significant difference between the pain score before and after receiving dry cupping therapy at Accupoint BL23.

The post test scores of intensity and quality of postpartum low back pain of experimental and control group were compared to assess the effectiveness of dry cupping therapy at accupoint BL23 on intensity and quality of Postpartum Low Back pain among postnatal mothers. All the data were entered in the master sheet in Microsoft Excel. The data were analyzed using descriptive and inferential statistical methods. The demographic variables of the postnatal mothers were described using frequencies and percentages. Paired and Unpaired t test were used to assess the significant difference of the intensity and quality of low back pain between the group receiving dry cupping therapy and the group receiving regular postpartum care.

RESULTS

Frequency and percentage distribution of postnatal mothers by their pre test and post test level of quality of postpartum low back pain showed that in experimental group is 15(50%) of postnatal mothers had moderate grade quality of postpartum low back pain and 15 (50%) of postnatal mothers had severe grade quality of postpartum low back pain before receiving dry cupping therapy. Unpaired t-test was applied to determine the significant difference between the post test mean scores of intensity and quality of postpartum low back pain among postnatal women in experimental and control group. The findings revealed that mean post test scores of intensity of postpartum low back pain (1.97) among postnatal mothers in experimental group is less than the mean post test score of intensity of postpartum low back pain (4.13) among postnatal mothers in control group. The computed mean difference was found to be 2.16.

Table 1. Mean, Standard Deviation, Mean Difference, Standard error and 't' value of intensity of Postpartum Low back Pain Score among postnatal mothers in Experimental Group and Control Group

$n_1+n_2 = 60$

GROUP	MEAN	STANDARD DEVIATION	MEAN DIFFERENCE	STANDARD ERROR	't' VALUE	P VALUE
Control Group	4.13	0.73	2.16	0.21	10.2857	0.0001*
Experimental Group	1.97	0.89				

*$t_{(58)} = 2.00$, P<0.05, significant at 0.05 level of significance

Table 2. Mean, Standard Deviation, Mean Difference, Standard Error and 't' value of quality of Postpartum Low Back Pain among Postnatal Mothers in Experimental and Control Group as assessed by SMPQ

$n_1+n_2 = 60$

GROUP	MEAN	STANDARD DEVIATION	MEAN DIFFERENCE	STANDARD ERROR	't' VALUE	P VALUE
Control Group $n_1 = 30$	16.7	2.92	11.8	0.609	19.37	0.0001*
Experimental Group $n_2 = 30$	4.9	1.62				

*$t_{(58)} = 2.00$, P<0.05, significant at 0.05 level of significance.

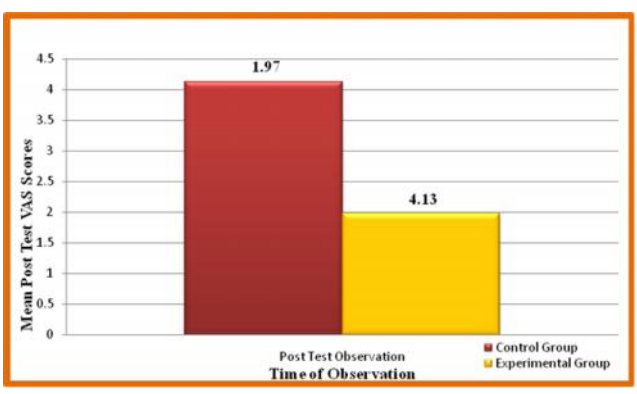

Figure 1. Clustered Column Diagram depicting Mean post test VAS scores of Experimental and control group

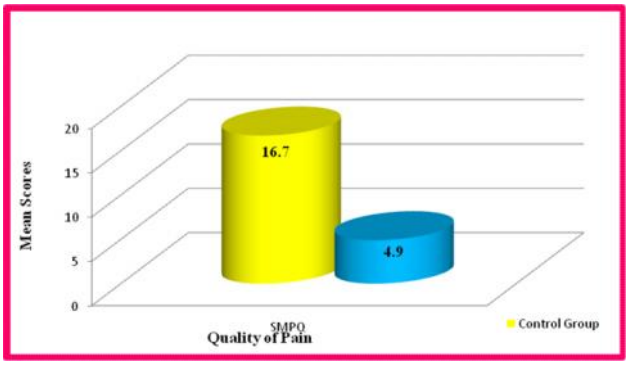

Figure 2. Clustered Cylinder Diagram depicting Mean post test SMPQ Scores of Experimental group and Control group

Since the calculated 't' value(10.2857) is more than $t_{(58)}$ = (2.00), the result is significant at 0.05 level of significance. Regarding the post test scores of quality of postpartum low back pain, findings showed that mean post test score of quality of postpartum low back pain (4.69) among postnatal mothers in experimental group is lesser than mean post test scores of quality of postpartum low back pain (16.7) among postnatal mothers in control group. The calculated 't' value of quality of postpartum low back pain, SMPQ (19.37) is more than the $t_{(58)}$ = (2.00), hence, it is significant at 0.05 level of significance.

DISCUSSION

In the present study the findings showed that dry Cupping Therapy at BL23 acupoint was effective in reducing intensity and improving quality of postpartum low back pain among postnatal mothers in experimental group. Findings suggested that the mothers receiving dry cupping therapy had a significant difference in the mean pre test and post test score of intensity of pain at 0.05 level of significance. Also it was found that dry cupping therapy has a significant effect on improving the quality of postpartum low back pain at 0.05 level of significance. The present study was a quasi experimental study on cupping therapy in gynecological diseases and aimed to investigate the effect of cupping therapy on the intensity and quality of low back pain. Based on VAS, the mean intensity of low back pain reached from 8.33 before the intervention to 1.97 after 3 days of intervention and the results of Paired and Unpaired 't' test showed significant difference between the observations. According to Short Form Mc Gill Pain Questionnaire the mean SMPQ Scores also reduced from 29.83 to 4.9. These findings is supported by a randomized clinical trial conducted in Shiraz University to assess the effectiveness of dry cupping therapy at BL23 Point on the intensity of postpartum low back pain based on two types of questionnaires. The researcher allocated the participants to experimental and control group using lottery method and the administered Dry cupping therapy in experimental group for 2 weeks. The pre test and post test of pain scores were compared by the researcher of both experimental group and control group. The findings of this study suggested that mean intensity of low back pain in the cupping therapy group decreased from 7.8 before the intervention to 3.7 after the intervention. The study results showed dry cupping therapy to be effective in sedation of pain. Thus it can used as an effective treatment for reducing low back pain (Nethravathi, 2015). Overall, various theories have supported the advantages of cupping therapy. For instance, cupping therapy is believed to enhance the blood flow around the cup and help release the toxins trapped in the body tissues.

Besides, it has been stated that this method moves discomfort from one place to another and, consequently, eliminates the pain (Izharhul, 2015). One study investigated the effectiveness of medical cupping therapy in 30 fibromyalgia patients in China. The researchers of that study used bamboo cups which were boiled in herbal plants for cupping. The results revealed a decrease in the score of pain compared to the beginning of the study (from 2.63±0.73 to 0.77±2.22 in 5 days and 1.78±0.75 in 10 days). Therefore it was found that cupping therapy led to reduction of pain and sensitivity in the patients suffering from fibromyalgia (Cao, 2011). Cupping therapy reduces local congestion through relative suction applied in the cups by heat or a sucker. This method has been employed for more than a thousand years. Although it is believed that cupping therapy originates from traditional Chinese medicine, this method is known as a beneficial treatment method all around the world (Izharhul, 2015).

The findings of the present study were also conformed to the study conducted by Mehrnoush Ghaemmagham *et al* in Iran. The researcher conducted a randomized clinical trial among 150 postnatal mothers (50 in each group) to compare the effectiveness of acupressure and dry cupping therapy at BL23 point on the intensity of postpartum low back pain. The results of this study suggested that mean difference of postpartum low back pain reached from 37.5 before the intervention to 9.0 after the intervention in cupping therapy group. On the other hand in acupressure group the mean postpartum low back pain reached from 31.6 to 22.0. Hence, there was a significant difference between dry cupping therapy and acupressure on intensity of postpartum low back pain at 0.05 level of significance (Mehrnoush Ghaemmagham, 2014). Regular postpartum care provided to the postnatal mothers in control group was also effective in reducing the intensity and improving the quality of pain but receiving dry cupping therapy has been more effective than regular postpartum care in reducing the intensity and improving the quality of pain.

Dry cupping therapy has been significantly proven to be a better remedy for pain. This finding is supported by a study conducted by Marzieh Akbarzade *et al* who conducted a randomized clinical trial was in Shiraz university's postpartum unit on 150 postpartum women (50 in each group) to compare the effect of dry cupping therapy and accupressure at BL23 on intensity of postpartum perineal pain. The findings of this study suggested that mean of perineal pain reduced from 37.5 before the intervention to 11.1, 6.9 and 3.8 immediately, 24 hours after and 2 weeks after the intervention respectively. Results of the study showed the differences between intervention and control groups were statistically significant ($p>0.01$). Mean difference of the perineal pain intensity reduced from 35.6 before the intervention to 10.4 two weeks after the intervention. Data of this study revealed that both acupressure and dry cupping therapy was effective in reducing the perineal pain but dry cupping therapy was more effective than acupressure in reducing postpartum perineal pain (Marzieh Akbarzade *et al*., 2016). This further suggested the that dry cupping therapy is effective for pain relief.

Conclusion

There was a significant difference between experimental and control group in terms of intensity and quality of postpartum low back pain among postnatal mothers after receiving dry cupping therapy at BL23 accupoint and regular postpartum care respectively.

Limitation

- Sample size was small owing to limited time for data collection, thereby making the generalization difficult.
- Study was limited to only one hospital, which prevent the generalization of the findings.
- Patients were aware of the reasons of the interventions and the study could not be blinded owing to the transparent nature of the study and thus this was out of researcher's control.

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Conflicts of interest

There are no conflicts of interest.

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