

Influence of Pilate therapy in post natal women with back pain

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Abstract:

Introduction: Regaining functional independency after delivery is challenging task to any female. It is mainly due to the impairment that follows in post partum period. Post natal back pain in the predisposing factors for most of the problems that arise. Prevalence is increasing day by day. Purpose : the purpose of this study was to find out a gold standard for managing back pain which is a global problem in post natal womens. Pilates therapy has been tried out for it. Methods : A pilot study where 20 post natal females having problem of back pain and abdominal weakness were included. They were assessed on the basis of visual analogue scale and manual muscle testing. Pilate therapy was given for period of 6 weeks. Results : using paired t test the scoring was calculated for changes within the group. Pilate therapy was found to have extremely significant difference in reduction of back pain and improving muscle strength statistically. Conclusion :Pilate therapy is very effective in reducing back pain in post natal women. It significantly improves muscle strength and flexibility of abdominal muscles.

Keywords: Post natal, back pain, pilates, pilot

I. Introduction:

The world health organisation defined human health in its 1948 constitution as “ a state of complete physical, mental, and social well being and not merely the absence of a disease or infirmity¹. Women’s health refers to health issues specific to human female anatomy². Women's body has to undergo lots of physiological changes throughout their life. Pregnancy and child birth are the very important phase in every woman’s life. The postpartum period starts following child birth and ends at 42 days. During this period, body undergoes many changes in order to regain the pre pregnancy status of the body. It is in this period that the new mother’s body begins its period of recovery and its return to normal. The pregnancy process will have resulted in a gradual change of body shape and function. At term, the women sees a ripely swollen abdomen, enlarged breasts, possibly oedema of the face, hands and legs, deposits of fat on her upper arms, hips, buttocks and thighs, and even perhaps stretch marks³. Post partum period may be associated with complications like postpartum haemorrhage, deep vein thrombosis, pulmonary embolism, gravitational oedema, puerperal infection, breast feeding problems, postural difficulties and backache⁴.

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During the postpartum period, woman is susceptible to many problems which affect the body. Musculoskeletal dysfunction may include back pain, diastasis rectii, pain in the epidural site, thoracic pain, coccydynia, symphysis pubic pain.

Postnatal low back torment (LBP) and pelvic torment are typical issues in postnatal anxiety period, and these conditions can vary in power from being a smooth bother to presenting as a genuinely impeding condition. The incidence of postnatal LBP has been shown to range from 21% to 82% in the first year post-partum (Östgaard&Andersson 1992; To & Wong 2003)⁵.

Low back pain is chronic once it has persisted for more than 3 months or more. Mostly its is described as non specific, mechanical low back pain, to which no recognizable pathology can be attributed (Duthey 2013)⁶.

Vleeming et.al (2008) portrayed pregnancy related pelvic desolation as torment ordinarily experienced between back iliac pinnacle and the gluteal cover, particularly in the area of the sacroiliac joint. Back distress can impact the women from various perspectives. It may include difficulty in performing day to day activities as well as problems in baby care. In few cases back pain may persist to chronic phase which is debilitating.

Decrease of anguish occurred in 51% at multi month and 78% at a half year in CS gathering, while in the customary vaginal movement pack 55% at multi month and 85% in the 6th month had decrease of torment. Tedious or steady LBPP is ordinary in postnatal anxiety period⁷.

It is evident that delivering proper care to improve the health and quality of life of women is a must that needs a regular evidence-based exercise pro- gram for postpartum care.

There is general understanding in the composing that there is decline in the middle muscle quality in the second and the third trimester. Physical treatment was seemed to have constructive effect on close to home fulfillment and saw success in a wide extent of patient masses requiring cardiopulmonary conditions and mental maladjustments. In 1999, Sampsele et al construed that women who partake in physical exercises in postnatal anxiety period acknowledge central focuses, for instance, less weight support, and higher transport change scores. As per the clinical sensible guideline for the leading group of pelvic help torment in pregnancy and postnatal depression, the administrators of PGP should be Multidisciplinary and multifactorial. Nonsteroidal anti-inflammatory drugs (NSAIDS) should only be used after delivery (Jain et al., 2006). Individualised Physiotherapy programmes are recommended based on the findings of an individual assessment⁸.

Post natal thought has been acceptably low in India given the risks of mortality for mothers and babies not long after birth. There is an in like manner imperative money related uniqueness in access to PNC. The incorporation of central PNC is inadequate. There is necessity for strengthening PNC organizations to keep awake with advances in the consideration of care in India through centered methodology interventions¹⁰.

Despite the apparently high prevalence of LBP and pelvic pain in the first year post-partum, the use of exercise to alleviate these problems has not been extensively researched.

A standard post natal care needs to be established as literatures on these programs as there is : Lack of basic screening and continued monitoring, Exercises not adapted for any pain, posture or other issues and No accommodation for post partum status.

Pilates is a method of exercise which focuses on improving the body's core by making the body more flexible and stronger. Few Studies demonstrate the efficacy of a specific Pilates exercise program over another in the treatment of pain. Regardless, the understanding in the field suggests that Pilates procedure is more effective than unimportant physical exercise intervention in reducing torment. These conclusions need to be supported by other⁹

II. Material and methods:

This pilot study was done in Krishna Hospital Karad Taluka in Maharashtra. After getting clearance from the institutional ethical committee, the study population of 20 was taken. Post natal females with back pain and or associated leg pain in vaginal delivery (Normal / instrument assisted)with Age 18- 35 years, 48 hours after delivery, Core muscle strength grade 3 were included in this study. Females with history of trauma and any disability, with upper back pain, foot pain, with problems related to neurologicaland cardio respiratory systems,with medications for any systemic illness were excluded from this study.

Subjects were included in single group. They received pilate therapy for a period of 6 weeks. Treatment was given for 6 weeks (4 times / week). Data collection was done on pre and post treatment findings. The changes were measured based on visual analogue scale for assessing back pain and manual muscle testing grade of abdominal muscles to check the status of muscle strength.

III. Findings:

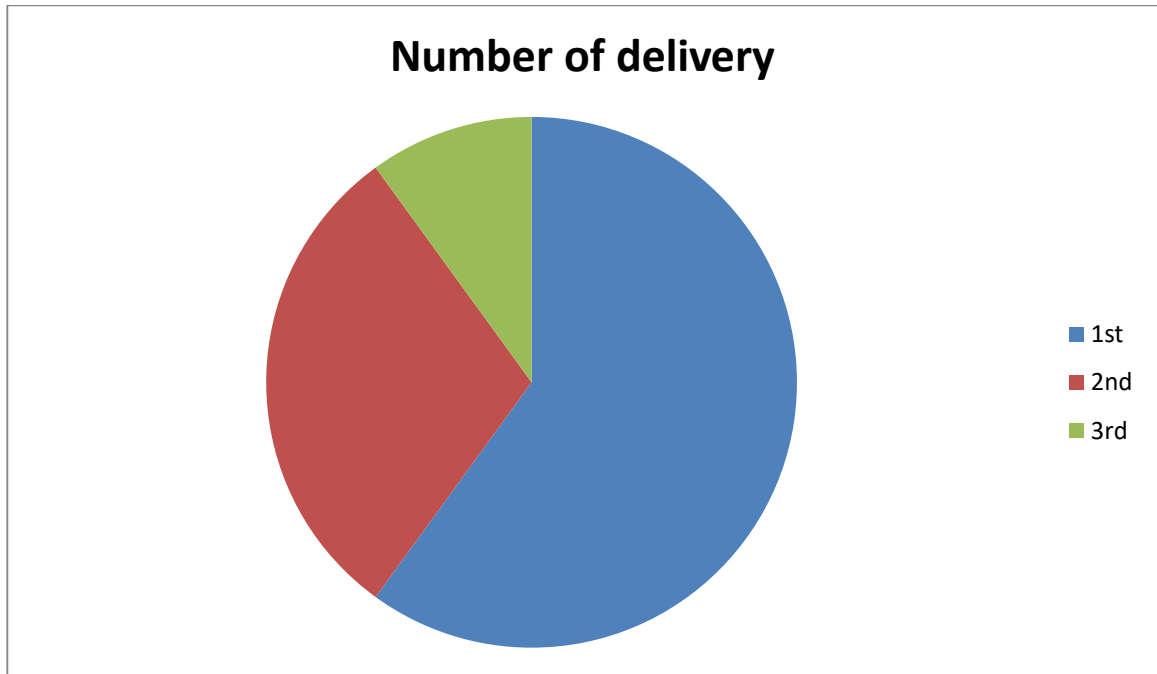


Diagram 1 : Pie diagram showing distribution of Number of delivery. Out of the total 20 females- first delivery was in 12 , second in 6 and third in 2.

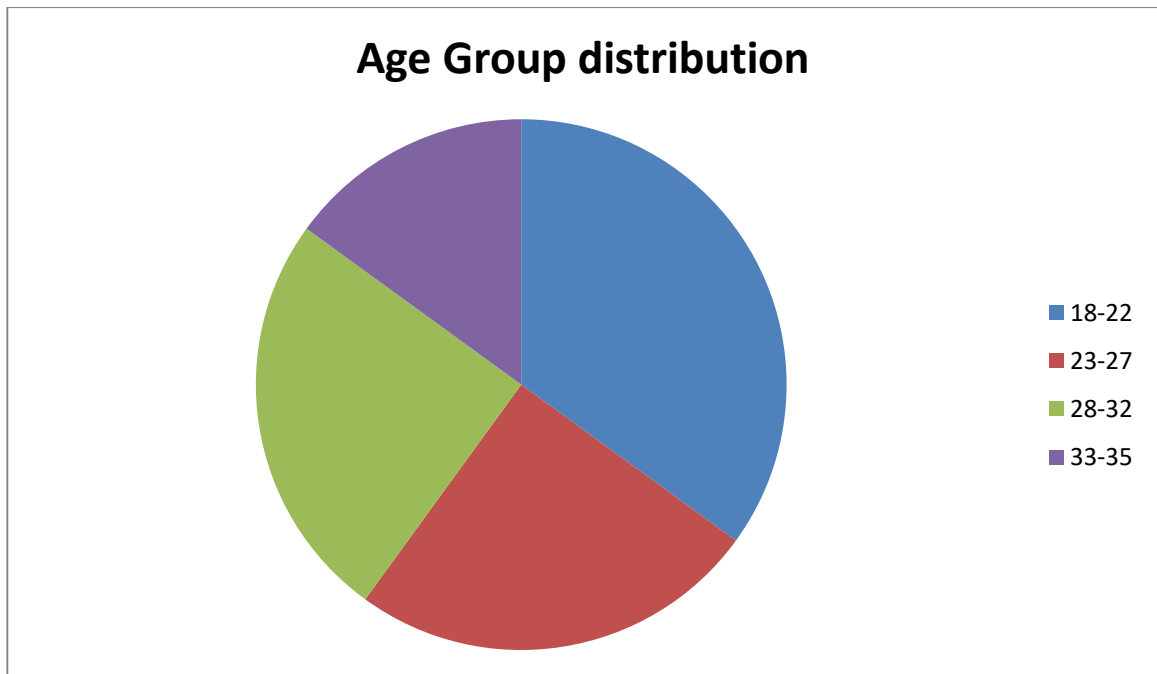


Diagram 2: Pie diagram showing distribution of age group.7 females belong to age group between 18 to 22, 5 between 22 to 27, 5 between 28 to 32 and 3 between 33 to 35 ages

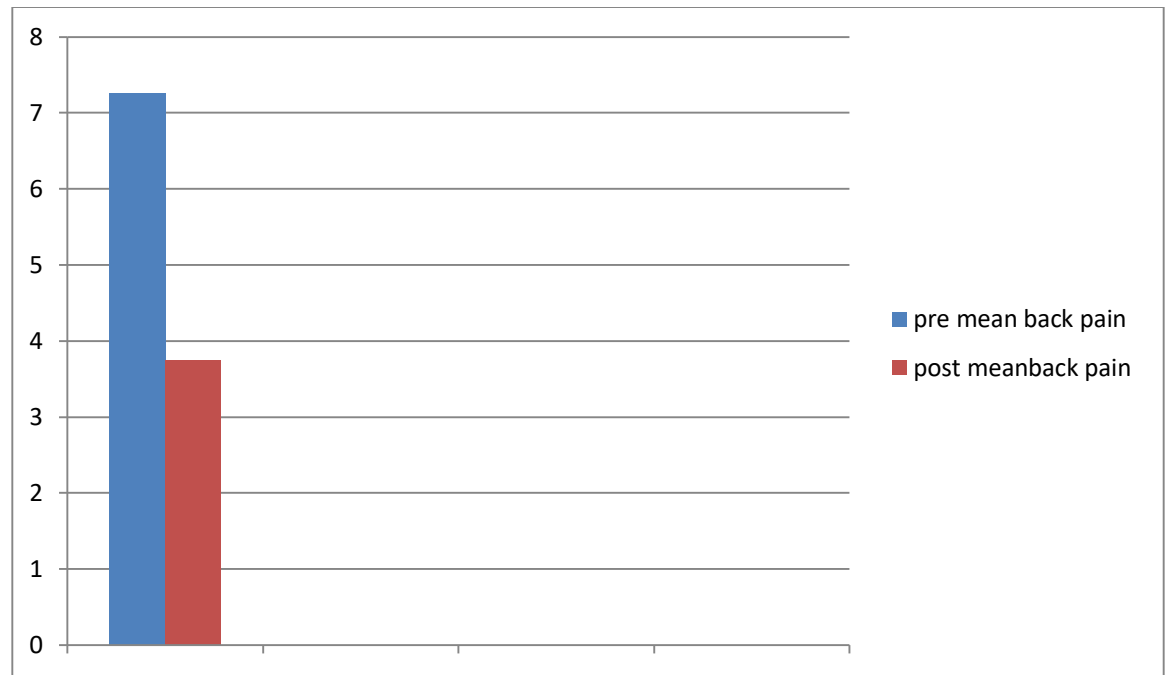
The outcome measures used were :

1. Visual analogue scale – for assessing back pain
2. Abdominal muscle strength – For assessing changes in muscle strength.

1. Visual analogue scale :

Sr no	Outcome measure	Pre		Post	
		Mean	SD	Mean	SD
1	Visual analogue scale (VAS)	7.25	0.716	3.75	0.716

Table 1 : Showing difference in mean and standard deviation for back pain after application of Pilate therapy.



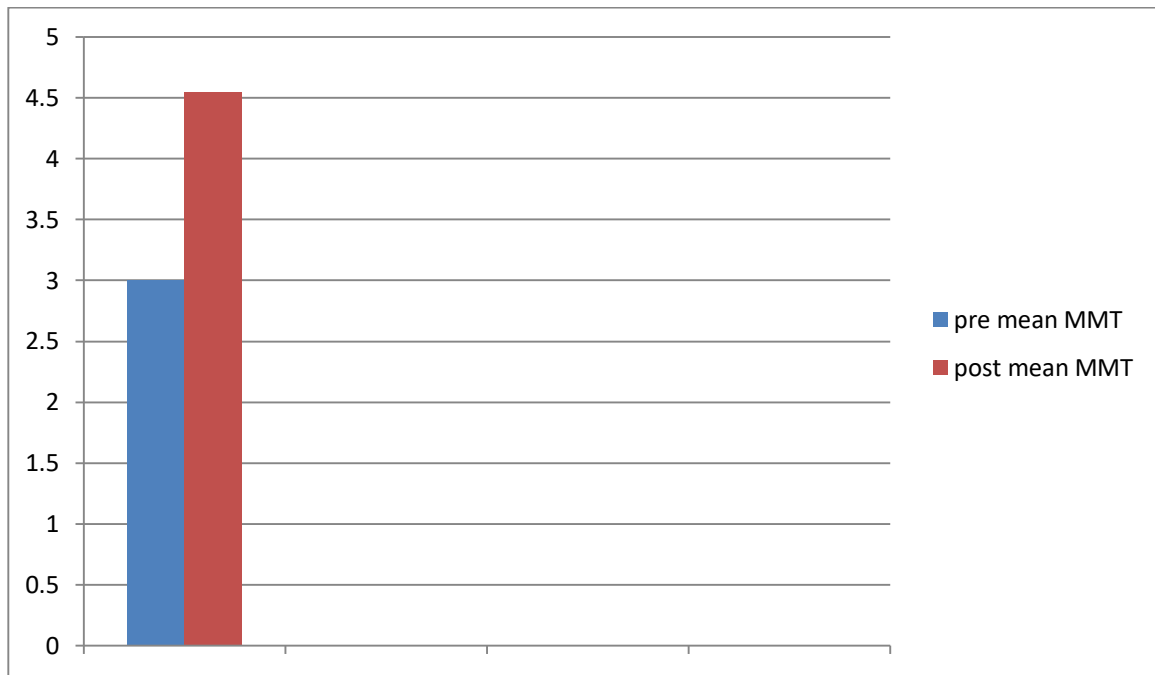
Graph 1: difference in back pain pre and post treatment with pilate therapy.

2. Abdominal muscle strength with MMT

Sr no	Outcome measure	Pre		Post	
		Mean	SD	Mean	SD
1	Manual muscle strength				

		3	0	4.55	0.51
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Table 2 :Showing difference in mean and standard deviation for abdominal muscle strength after application of Pilate therapy.



Graph 2 : Difference in abdominal muscle strength pre and post treatment with pilate therapy.

IV. Discussion:

A pilot study was undertaken to find out the influence of pilate therapy on back pain in post natal women. Total 20 subjects were included. Subject received pilate therapy for a period of 6 weeks.

➤ Pilate therapy works on various principles which might have thought to cause improvement by reducing pain and increasing muscle strength. Use of mental focus to improve movement efficiency and muscle control. Awareness of impartial spine course of action, or authentic position, all through the exercises. Improvement of the significant muscles of the back and mid-area to support this position. Usage of breath to progress mental focusing and centring Working on above principles patient specific exercises were designed which might have played a significant role in patient's outcome.

➤ Fundamentals used in various exercises were Concentration, Control/precision, Centering, Stabilizing, Breathing Alignment, Fluidity Integration.

- Pilate therapy is targeted specifically on core muscles of spine which specifically undergoes tremendous changes during pregnancy. Physiological and hormonal changes cause them to become painful and weak. As pilates uses the above principles it might have shown to improve anatomical parameters of the muscles thereby making them strong and pain free.
- As the exercises were subject specific , the patients were easily distinguished in terms of impairments and so goal specificity and it means could be set and achieved in a proper manner.
- Pilate-based exercise is a fitting volume to include to physiological favorable circumstances lumbo pelvic quality and improve versatility in lower leg¹¹.
- Equipment based and mat Pilates modalities are both effective in the improvement of Transverse abdominals activation in patients with Chronic low back pain with associate improvement on pain, function and kinesiophobia¹².
- Pilates improves flexibility. It increases muscle tone and strength particularly of abdominal muscles , lower back, hip and buttocks (core muscles of the body)
- It is thought to balance muscle strength on both the sides of the body. This facilitates enhanced muscular control of the back and limbs.

V. Conclusion:

The study concludes that Pilate therapy is very effective in reducing back pain in post natal women. It significantly improves muscle strength and flexibility of abdominal muscles.

Conflict of interest:

There is no conflict of interest.

Source of funding:

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Ethical clearance:

The study has clearance of ethical committee from Krishna institute of medical sciences deemed to be university, Karad

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