

“Physical therapist approach towards the management of low back pain among post – partum females: A perception-based Questionnaire of Current Clinical Practice”

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Abstract:

Background:

There are wide variations in the treatment of low back pain including monotherapy, multidisciplinary therapy and reductionism. The purpose of this study was to identify practical preference of physiotherapists between core stability and flexibility exercises to treat post-partum low back pain there is currently limited evidence to support the use of specific therapies targeted for postpartum LBP and considering the lack of evidence based work done in gynecological rehabilitation.

Methods:

An observational study was conducted on 96 physical therapists who had working experience in gynecological rehabilitation. Data were collected by self-generated questionnaire in which physical therapists were asked to mark the practical preference between the core stability and flexibility to treat LBP. Collected data sets were analyzed by SPSS-Version 20

Results:

The results of our study demonstrated that 75% physical therapists prefer hot pack while 15% cold pack to treat postpartum LBP. Vast majority of physical therapists chose core stability exercises as their first choice of treatment for postpartum LBP. TENs was preferred the best current to manage pain while myofascial release too has the high predominance

Conclusion:

It was predicted that large numbers of physiotherapists favor core stability exercises as their first choice instead of flexibility exercises or pelvic floor exercises to treat post-partum LBP. Core stability exercises appear to be more beneficial technique in the treatment of post-partum low back pain in women after delivery.

Introduction:

Trends in the global prevalence of low back pain in the general adult population published in 2000 showed 12-33% people suffered from it whereas 22-65% showed a 1-year prevalence. Low back pain is a common condition among many individual occurring some time in their lives (Hoy,D.et.al 2012) its intensity ranging from dull to a constant ache to a sudden sensation of sharp pain leaving the person debilitated. Pain can commence unexpectedly due to a trauma or lifting something heavy, it can also develop over time as a result of age-related changes. Low back pain ranges from acute, short term and may even last up to a few days or weeks. Sub-acute low back pain lasts between 4 and 12 weeks. While chronic low back pain is categorized as pain prevailing for 12 weeks or longer. (Chou, R., 2010). Whereas around 20% of people suffering from acute low back pain with repeated symptoms develop it into chronic low back pain

50% of the females are diagnosed with low back pain during pregnancies (Tariq, M.,et.al 2018). Pregnancy related low back pain is usually always a dull type of pain, restricting spinal movement which increases on bending forward. Consequently all abdominal muscles are lengthened and weakened. The functional link between the pelvic floor and the transversus abdomen is broken. Simultaneously many other mechanical, circulatory and hormonal factors during pregnancy cause low back pain. Stretching of the pelvic muscles and ligaments occur due to hormonal changes to accommodate the infant. Subsequently pelvic and lumbar joints become more flexible increasing lumbar lordosis, shifting the line of gravity and change in posture; all leading towards Pregnancy related low back pain. (Khan, M.J,et.al 2017).

Moreover, the postpartum periods are a time of great change for women physically, emotionally and hormonally, when musculoskeletal pain and dysfunction is common. As a result, the intensity may vary but it most certainly affects mother's activities of daily living, caring for their new born, her sleep cycle and household chores. Their quality of life is lowered or they become disabled resulting in constant bed rest. (Khan, M.J,et.al 2017).

Post-partum low back pain being a common concern, nevertheless is treatable with vast spectrums of treatments available in the umbrella term of physical therapy, hence physical therapists aim to manage and treat this condition in order for women to restore their strength and proper body mechanics, eventually improving the quality of life -the core aim of physical therapists.

Physical therapists engaged in gynecological rehabilitation are experts in the area of women's body most analogous with childbirth; everything from proper exercises of pelvis , the core muscles and the spine; posture training and ergonomics. The nurturing support of a physical therapist will put you more in charge of your body, help you get through your pregnancy with less pain and prepare you for the post-partum period. This proficiency is built up through ongoing practice, continuing education and specialized training.

The American College of Obstetricians and Gynecologists recommends optimizing the health of infants and women. Moreover; postpartum care should be an ongoing process, not just a single encounter, services being provided according to each woman's needs. Guidance to the women should begin during pregnancy and gradually develop a postpartum care plan which addresses parenthood as well as well-women care (Phipps MG et al. 2019).

According to ACOG all women should ideally have contact with a maternal care provider in the initial 3 weeks of delivery, followed by ongoing care as needed and a post-partum visit within 12 weeks after birth. Currently, as many as 40% of women do not attend a postpartum visit. Ideal postpartum care provides an opportunity to bolster the well-being and health care of a women. ACOG states that exercises should be

resumed gradually, rapid revival of activities may result in injurious conditions (Bennett, R.J et.al 2014.)

Some women believe pelvic and back pain gets better post natal but unfortunately that is not the case for at least one third of the women(Back, P.T.C.R. and During, P.P., 2014.). Many therapist suggest education and exercise therapy can help reduce back pain associated with post partum. Your physical therapist can teach you the correct exercises and demonstrate how to alter the way you perform some of the exercises to best reduce your pain. Moreover, your therapist can also help you decide as to which other treatments, like manual therapy, might be helpful.

Over the past 10 years, researchers have explored immense interventions that can be applied to alleviate pregnancy related low back and pelvic girdle pain . A cochrane review considered randomized controlled trials (RCTs) of any treatment or combination of treatments. The examiners found no significant difference for pelvic pain while low quality evidence for land based exercises targeted for low back pain. When back and pelvic pain were considered together there was moderate quality evidence that a 12-week exercise program may be of benefit. (Hall, H et,al,2016)

However some studies also indicate that core stabilization exercises are helpful for those with low back pain or weak abdominal muscles . Core stability is essential for proper load balance within the spine, pelvis and kinetic chain. Common core exercises include pushups,squats, situps and crunches ; incorrect posture is a major contributor in postpartum low back pain , proper posture relieves the pain and improves the condition(Chaudry, S.,Et.al.2013) .

A case report was conducted in 2015 focusing on the effects of core stabilizing exercises and exercise therapy to see its effects on post-partum low back pain. The patient was a 28-year-old female with lumbosacral and bilateral hip pain for 2 years after delivery. Core stability exercises, medical exercise therapy and manual lumbar traction was given.Results concluded that increased levels of functionality were achieved after these interventions. (Chaloner, Z., 2015)

A questionnaire-based study conducted by Ammal, Tarek A, Mitchell focusing on the effect of McGill-based stabilization exercise program in decreasing pain and impairment in women suffering from low back pain post-delivery. Thirty-four postpartum females participated in this study. Oswestry Disability Questionnaire and Numerical rating scale were used to measure disability and pain. Hence, McGill stabilization exercises of trunk were found to be efficient in giving positive results for decreasing pain score in the women.(Ammar, et.al.,2011).

A randomized controlled trial was conducted in Rawalpindi, Pakistan, during 2011-2012 in a public hospital targeting 2 groups of 20 subjects each .One group being the experimental had 2 treatment sessions a day consisting of core stabilizing exercises, and postural correction while the control group was intervened with only back strengthening exercises. Results showed 60% patients responded to core stabilization and postural correction while 40% to strengthening exercises. The research concluded that core stability exercises and postural correction decrease post-partum pain. (Chaudry, S., et.al.,2013).

Rationale:

We conducted this study to know the better results between core stability exercise and flexibility exercises among postpartum women.

Hypothesis:

Core stability has better results than flexibility according to the study.

Objectives:

To know the best results of core stability exercise and flexibility exercises among postpartum women.

Study design:

Cross-sectional observational study.

Sample size:

There were 96 participants selected from various clinic, primary and tertiary care hospital.

Collection Methods:

A study was conducted in the different hospitals of Karachi, Pakistan; among female physiotherapists. A sample size of 96 was taken. The data was collected by a self-generated questionnaire. The physiotherapists who have been treating or have treated post-partum females with low back pain/pelvic girdle pain were included in the study. Data was collected from Ziauddin Hospital (North Nazimabad and Clifton campuses), Dow University Hospital (Ojha Campus) and Dar-ul-sehat. Few tertiary care hospitals refused to collect data because of their policies regarding research conduction in their hospitals. This data was being collected in the months of January and February 2019. Before collection of the data, a pilot study was conducted to check flaws in the questionnaire regarding the preferences of the physiotherapist from core-stability exercises and flexibility exercises, when treating their post-partum patients experiencing low-back/pelvic-girdle pain. Data was collected after the consent of the therapist and analyzed on the basis of frequencies and the number of therapists who gave their consents to be the part of our research.

Data Collection Procedure:

Data will be collected through a self-generated questionnaire addressing to the perceptions of physical therapists as to which intervention they think is better among flexibility or core stability exercises to treat post-partum low back pain.

Data analysis methods:

Data was examined on SPSS version 20

Study period:

The study period is 6 months

Participants in the study:

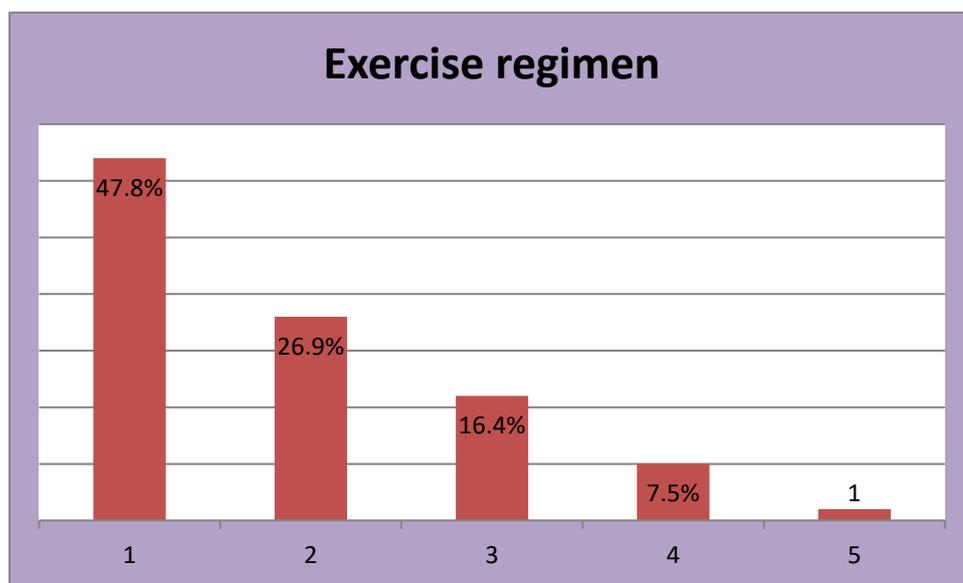
All the participants are experience female therapist in different primary and tertiary care hospitals.

Ethical considerations:

An informed consent will be taken by the participants before the research. Confidentiality of the participants will be kept intact, no forceful allocation of any participant into the study will take place. It will solely be a self-decisive option for the participant. There will be full insurance regarding safety.

Result:

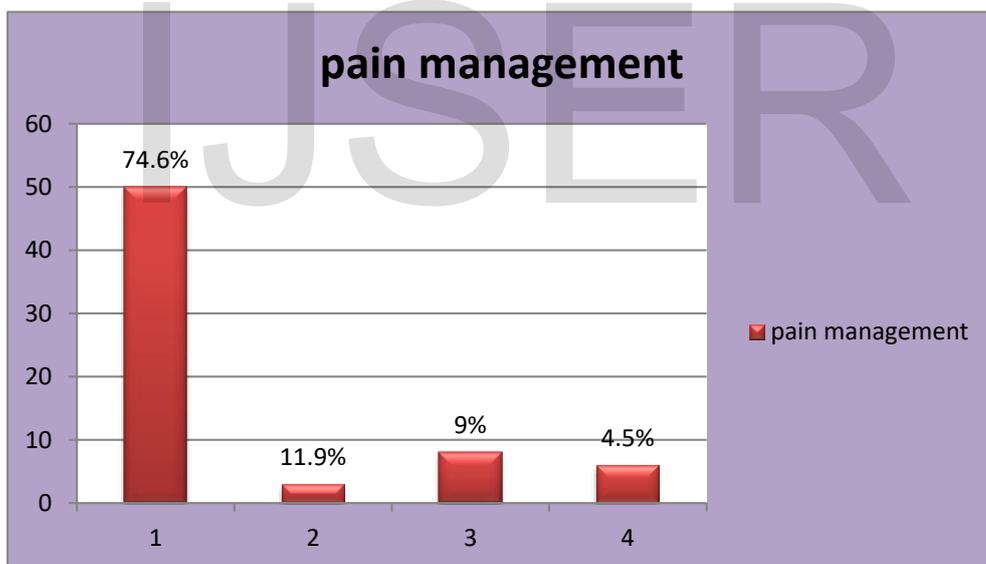
47.8% of the therapist preferred using core stability in addition to all the other therapies being applied. 26.9% chose flexibility exercises, 16.4% chose pelvic floor exercises while only 7.5% therapist preferred applying a combination of therapies, data shows in Fig 01.



1. Core Stability, 2. Flexibility, 3. Pelvic Floor, 4. Combination Therapy, 5. Other Therapy

Figure01. Shows Preference of Exercises

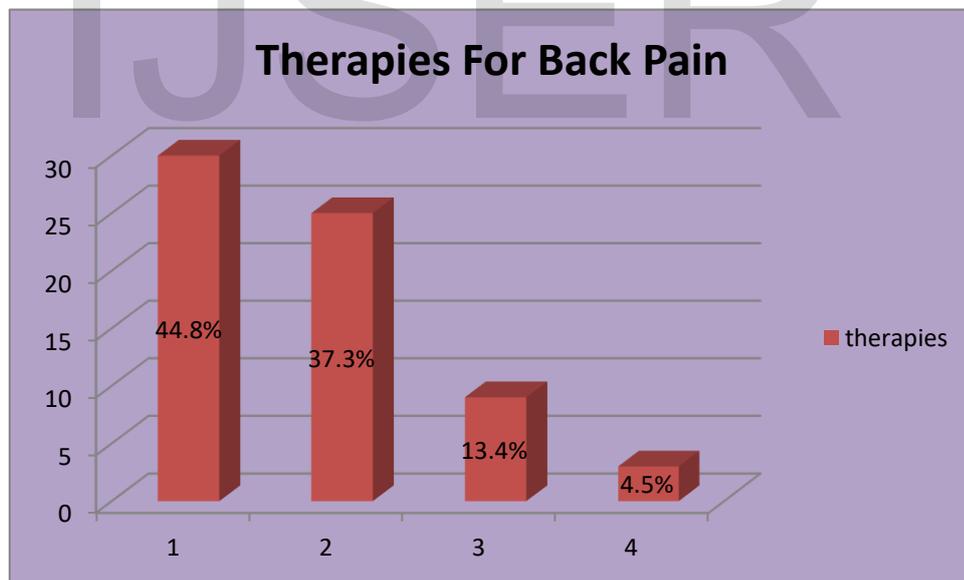
74.6 % of the therapist preferred using hot pack at the beginning of their treatment regimen, 11.9% preferred combination of heat and cryotherapy, 9% advice rest to their patients while only 4.5% chose cold pack alone, data shows in Fig 02.



1. Hot Pack 2. Combination of Heat and cryotherapy 3. Rest 4. Cold Pack

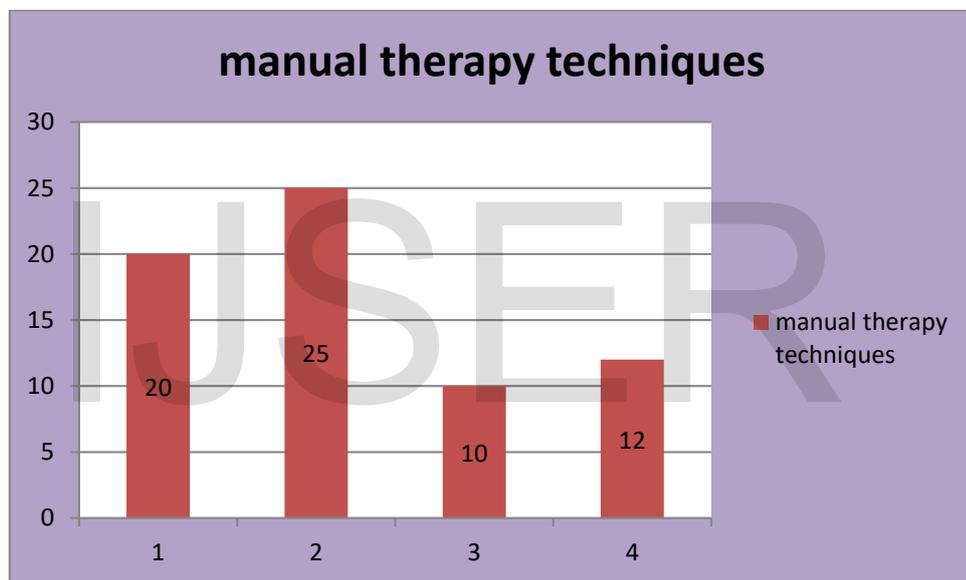
Figure02. Shows Preference for pain management

In a broader perspective 44.8% therapist chose to treat post-partum low back pain with electrotherapy, 37.3% with manual therapy. 13.4% with acupuncture while only 4.5% with hydrotherapy. Data shows in fig 03.



1. Electrotherapy 2. Manual Therapy 3. Acupuncture 4. Hydrotherapy

Figure03. Shows Preference of Therapies for back pain



1. Massage 2. Myofascial release 3. Spinal Mobilization 4. Muscular Relaxation

Figure04. Shows Preference of Therapies for back pain

Figure 04 shows out of the all therapist that chose manual therapy 37.3% choose to give myofascial release, 29.9% choose to give massage, 17.9% muscular relaxation while 14.9% choose to give spinal mobilizations and 60.6% of the therapist claimed according to their experience that postpartum low back pain increased after LSCS while 28.8% said it increased after normal delivery.

Discussion:

Postpartum low back pain is a very serious issue to be discussed. Post-natal period being a very important term for every woman, perhaps awareness regarding this period is crucial for every women's health. Post-partum low back pain is a common complication of pregnancy which occurs due to many reasons, some being the top in the list and seen in most pregnancies are postural changes, mode of delivery, pre-natal lifestyle, history of complications of previous pregnancy if any, hormonal changes, anatomical changes, obesity, lumbopelvic rhythm dysfunction etc (HA. VVA et al., 2019).

Eventually, in terms of treatment of post-partum low back pain beside many options in the store of physical therapy interventions, namely acupuncture, aquatic exercises, yoga, pelvic floor targeted exercises; our research focuses on physical therapists' perception on treating low back pain having flexibility and core stability exercises at the two opposite poles of comparison mainly besides other treatment options discussed further in our discussion and research questionnaire (crockett t al., 2019).

We approached physical therapists who have worked in gynaecological rehabilitation in tertiary-care hospitals and treated females with post-partum low back pain. It is a common complaint in our society among females but due to lack of awareness and education, this issue is moving towards negligence. In a nutshell, it is disturbing the lives of women, shifting their lifestyle paradigm towards disability, pain and chronicity of this major complain of post-partum when not paid attention to.

According to our results' interpretation obtained through our research questionnaire, core stability was brought into limelight as per our hypothesis followed by flexibility exercises to treat low back pain when we talk about exercise regimen particularly, beside other treatment options discussed in our questionnaire. From among core stability exercises, most physiotherapists selected curl-ups when contrasted to pelvic bridging and prone planks. Those who opted flexibility exercises for their treatment regimens, stretching of the lower back muscles (i.e. multifidus, erector spinae etc.) was the most favorable option by most of the physiotherapists.

Furthermore, in a research conducted in Rawalpindi, investigators focused on the effects of core stabilization exercises with exercises including posture-correction guidance in different positions. As quoted in this research, core stability is essential for proper load balance within the spine, pelvis, and kinetic chain. About 60% results were in favor of the package comprising of stabilization exercises plus postural correction-directed exercises (Chaudry, et.al., 2013). Also, another research favored core stability exercises when compared with pelvic floor exercises on the same shelf in treating chronic low-back pain post-partum. However, both were found to balance the see-saw in terms of effectiveness but core stability exercises fortunately match our research's results plus hypothesis, as women who underwent core exercises proved research-objectivized parameters to reflect out to be in its favor more than pelvic floor muscles exercises (Kumar, et.al., 2015).

Also, beside core stability and flexibility exercise regimens there are increasing demands of many other treatment options with evidences on the book shelves in physical therapy so as to deal, with evidence and reason when required, the so-called thundering tattoo of 'post-partum low back pain' in post-delivery season. Those are dry cupping technique, dry needling, osteopathic manipulation technique (OMT) etc. In a research conducted by Sharma et al, 2017, they focused on the dry cupping technique on BL23 point, also called Shenshu (Bladder acupuncture point which is situated 1.5 cm lateral to the posterior midline, between L2 and L3)) to treat post-partum low back pain and the results were proven to be positive in reducing the intensity of low back pain. Another research also conducted on dry cupping technique in Iran on primiparous women also showed the same positive results as the previous research in treating low back post-partum pain through same BL23 point (Akbarzadeh, et.al., 2012). Moreover,

in a systematic review conducted by Franke, et.al., in 2014, two researches conducted in Germany were included which showed the effectiveness of osteopathic manipulation techniques (OMT) in women who had persistent low back pain and were undergoing disability after delivery which continued for a time period more than their puerperial season (Schwerla, et.al., 2015)

In another research conducted by Unsgaard-Tøndel, et.al., they discussed the results of stabilizing exercises with ultrasound(US)-guided activation of deep muscles including Transversus abdominus (TA), multifidus (MF) and pelvic floor muscles, with their strengthening and stretching; since according to Chaudry, et.al., TA and MF are considered to be the deepest muscles of lower back region and the root cause of low back pain. MF support the whole framework of spinal segments enhancing the core stability of the lower back segments and they both combinedly form the functional core of the body. In conclusion, these US-guided exercises showed a greater decrease in lumbo-pelvic pain.

Moving forward to our research's results, 75% of physiotherapists prefer hot pack as their first option during the start of treatment for pain management, 15% opted for cold pack and 10% favored contrast treatment of both. Similarly, in a case study regarding pregnancy-and lactation-associated osteoporosis (PLO) which induces post-partum low back pain, they discussed that it is a rare cause of post-partum low back pain and disability but an important differential diagnosis to be ruled out when dealing with patients of low back pain during or after pregnancy. When it comes to pain management, she was also treated with hot pack despite PLO which again favored our research's results (Terzi et.al., 2014). In contrast to our research, researchers are still using infra-red to manage low back pain of their participants at the start of treatment giving its session for about 15 minutes and then continuing with their whole treatment plan (Tanvi et.al., 2013).

In our research, according to the results of our questionnaire interpreted, electrotherapy was being preferred in the treatment sessions by most of the physiotherapists among other therapies in a broader perspective followed by manual therapy, acupuncture therapy and hydrotherapy sequentially. Moreover, from the umbrella of electrical stimulation, physiotherapists preferred TENS to treat their patients' low back pain when

they were asked to select from among some options given in the questionnaire namely, Russian current, short-wave diathermy, didynamic/hvpc. Additionally, in a Cochrane database they, after reviewing systematically concluded, that TENS was used as a source of treating post-partum pain immediately after vaginal delivery (Deussen, et.al., 2011). Similarly, those who were under the preference of manual therapy, they from among different manual therapy techniques namely, massage, myofascial release, spinal mobilization and muscular relaxation; seemed to use myofascial release most of the time in order to achieve the desired results when treating low back pain beside exercises.

When results were interpreted for the cause of low back pain in association with the mode of delivery, most of the physiotherapists shared their opinion that it was seen in most cases of cesarean section than in cases of vaginal delivery. Also, in a research, it was discussed about chronic post-surgical pain (CPSP) which was associated with the cesarean section (Jin, et.al., 2016). Another research supports the same point favoring that pain persists for around one year after cesarean section than after vaginal birth (Kainu, et.al., 2010).

Furthermore, as per our results' interpretation we found out that post-partum depression and anxiety are also major issues which physiotherapists come across when they treat their patients. Women face physical and emotional health problems which can lead to post-partum depression and there are many researches supporting this point (Schwerla, et.al., 2015). Even post-partum depression is also associated with the mode of delivery as post-partum low back pain is; hence its prevalence is more in women with cesarean sections according to this research (Jin, et.al., 2016). Post-partum depressive symptoms are more prevalent in those women having lumbopelvic pain than those without pain (Gutke, et.al., 2007). Also, women who experience unplanned caesarean sections are more prone to develop symptoms of post-partum depression (PPD) (Makara-Studzińska, et.al., 2015).

Conclusion:

In conclusion Core stability exercises are very important because core supports your spine and pelvis and is integral to motion, transferring force from one space to the opposite. Having a powerful core is very important for movement, as a result of weak or inflexible core muscles will interfere with the right functioning of your legs and arms. Weak core muscles may leave you at risk of poor posture, lower back pain and muscle injuries. Strengthening core muscles can also facilitate improve back pain. The cause behind this study is to recognize sensible preference of physical therapist between core stability and flexibility exercises to cure postnatal low back pain. As stated from our results considerable amount of physical therapist support core stability exercises as their 1st alternative in respect to flexibility exercises or girdle floor exercises to treat postnatal low back pain. Core stability exercises seem to be a lot of beneficial technique within the treatment of postpartum low back pain in ladies when pregnancy. It is essential to recognize the significance of core stability in post-partum females, we can reduce the incidence of low back pain if core strengthening is encourage after pregnancy.

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