Comparative assessment of symptoms between exerciser and non-exerciser group in post-delivery patients

Naila Naseer1 Mahwish Shamim2

Abstract:
Pregnancy related low back pain and urine incontinence is considered as an important health problem which may potentially leads to long-lasting pain and disability.

These complications and others lead to abnormal posture and need physiotherapy management. This is an experimental study design to conduct and evaluate the comparative assessment of symptoms between exerciser and non-exerciser group in post-delivery patients. In this study of 30 women, 15 are in exerciser group of mean age 28.2, mean number of children 2.5, and 15 are in non-exerciser group of mean age 27.86, mean number of children 2.4, were examined for the symptoms that arise after delivery. Nine women had caesarean section and six women normal deliveries in the exerciser group and eleven women had caesarean section and seven normal deliveries in non-exerciser group. Women in exerciser group practiced kegal exercises, trunk exercises and lower limbs exercises, whereas the non-exerciser group did not take any physiotherapy. The main results showed urine incontinence, low back pain, change in limitations in activities and severity of main complains. Symptoms relieve after physiotherapy, in exerciser group nine women said “to some extent”, five women said “yes” and one woman said “no”. It was concluded that pelvic floor and trunk exercises were effective in the prevention and treatment of urine incontinence and low back pain. The practice of physiotherapy affects women throughout their life.

Keywords:
Vacuum extraction, kegal exercises, incontinence of urine, backache, urinary tract infection.

Introduction:
In order to restore function in the pelvic floor and trunk muscles after child birth, women have been encouraged to perform pelvic floor muscles and trunk exercises. Pregnancy and vaginal delivery have been considered main risk factors in the development of urinary incontinence1-3. Post-partum pelvic floor muscle training has been demonstrated to be effective in prevention and treatment of urinary incontinence in the immediate post-partum period 4. A strong and well-functioning pelvic floor can build a structural support for the bladder and the urethra 5. In addition, a well-timed, fast and strong contraction may prevent urethral descent and close the urethra during an abrupt intra-abdominal pressure rise6.

Pregnancy related low back pain is a frustrating health problem. It is believed that it could lead to long-lasting pain and disability after delivery7. However, prevalence drops significantly to 35% in the first month after delivery and stabilizes directly afterwards8-10. Nevertheless, these figures do not support an understanding into the severity of pain, limitations in activities and restrictions in participation11.

There are even fewer data regarding the use of kegal exercises (isometric contractions of the pubococcygeal muscles) in reducing post-partum pelvic relaxation. These simple exercises are universally recommended12.

Pelvic floor education assists women to exert better control over their urinary continence mechanism by teaching them to improve the support of their bladder necks by increasing the strength and endurance of the paravaginal muscles13. Among various types of incontinence, stress urinary incontinence is predominant, with prevalence rates of 15 – 52%14.

This is prospective study to evaluate the symptoms
between exerciser and non-exerciser group in post-delivery patients and effectiveness of exercise program.

**Material and Methods:**
This prospective study was conducted in the PNS Shifa Hospital and Fatima Hospital Baqai Medical University Karachi, Pakistan. A population of 30 women consisting of two groups, 15 women in exerciser group and 15 women in non-exerciser group were studied. Exerciser group was of mean age 28.2 and mean number of children 2.5 whereas the non-exerciser group was of mean age 27.86 having a 2.4 mean number of children.

Women in the exerciser group were taught kegal exercises, trunk exercises and lower limb exercises. In the non-exerciser group they did not take physiotherapy. Out of exerciser group, nine women had caesarean sections and six women had normal vaginal deliveries. Among the non-exerciser group 11 women had caesarean section while seven had normal deliveries.

**Result:**
The women who had education experienced significant incidence of stress urinary incontinence and low back pain as compared to those who did not receive this education.

The graph (Fig. 1) shows that 12% of the women have urine incontinence, 11% low back pain and 12% urinary tract infection in exerciser group while 14% of the women have urine incontinence, 15% low back pain and 6% urinary tract infection in non – exerciser group.

**Fig. 1: General History**
The graph (Fig. 2) shows the follow up of the exerciser group.

<table>
<thead>
<tr>
<th>Visit</th>
<th>Pelvic muscles</th>
<th>Lower back muscles</th>
<th>Abdominal muscle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>7%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>5th</td>
<td>11%</td>
<td>8%</td>
<td>7%</td>
</tr>
<tr>
<td>10th</td>
<td>8%</td>
<td>8%</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Fig. 2: Follow up session of exerciser group**
The graph (Fig. 2) shows that the symptoms improved after physiotherapy and without physiotherapy.

**In Exerciser group:**
To some extent 9%
Yes 5% ; No 1%

**In Non-Exerciser group:**
To some extent 1%
Yes 0% ; No 14%

**Fig. 3: Symptoms relief after physiotherapy and without physiotherapy.**

**Discussion:**
The results demonstrate that a significant
improvement takes place in pelvic floor muscle and trunk muscle strength after delivery in a exerciser group. The exerciser group was trained as compared to the non-exerciser group. This group had greater improvement in pelvic floor and trunk muscle strength after delivery. This indicates that strength training of the pelvic floor muscles has to be intensive to be effective in urine incontinence and trunk muscle strength in low backache.

The non-exerciser group is free from the exercises which showed non-beneficial results. Pregnancy related complications are frustrating health problem because of their high prevalence. Women in the post-partum period need strong motivation for the exercise to be maximally effective. The women who were told to perform pelvic floor exercises to train the pelvic floor muscles, found that the exercises were not personally salient and not easily adoptable as a personal project. The exercises focus on an area of the body which is not easy to control consciously.

Conclusion:
In conclusion, this study demonstrates that a specially designed post-partum pelvic floor muscle training, kegal exercises and trunk exercises was effective in the prevention and treatment of stress urinary incontinence and low backache. The benefits from pelvic floor muscles and trunk muscles training have been noted after delivery. A review of questionnaires completed by study participants showed that in exerciser group symptoms get relieved after physiotherapy. Nine women said ‘to some extent’, five women said ‘yes’ and one woman said ‘no’. While in reply to the questionnaire in non-exerciser group one women said ‘to some extent’, no women said ‘yes’ and 14 women said ‘no’. The effects of pelvic floor rehabilitation on the incidence of stress urinary incontinence, was reduced in the women of exerciser group who received pelvic floor education.

REFERENCES:
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