



# TO STUDY THE EFFECTS OF PELVIC FLOOR MUSCLES TRAINING ON BACK PAIN AND FUNCTIONAL DISABILITY IN THE ACTIVITY OF DAILY LIVING

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**Abstract:** Background: Sexual function, pelvic organ support, and bladder and bowel control are all essential functions of the pelvic floor muscles. Correctly contracting the pelvic floor may be challenging. No other muscles, such as the adductors or glutes, are recruited during a typical pelvic floor contraction.

**Materials & Methods:** In the research, 45(n=45) (age=21-45) women participate voluntarily. All individuals had a history of pregnancy and have either undergone a natural or surgical birth. All subjects report significant back discomfort after pregnancy. The VAS for pain intensity and the Oswestry Disability Index for function (disability) in participants' activities of daily life were used to design a questionnaire. The individuals who qualified for the trial were initially informed about the study's goal and treatment techniques. Then, informed written permission was acquired from each participant.

**Results:** In this study, by comparing the Pre and Post data we can say that there are significant effects of pelvic floor exercise on the disability and back pain in the activity of daily living. The pre-score for Oswestry Disability Index is  $82.20 \pm 8.398$  which is  $>$  than the post score of  $36.80 \pm 17.012$ . The Vas pre score is  $8.38 \pm 0.868$  which is  $>$  that the post score of  $4.95 \pm 1.616$ .

**Conclusion:** By this study, we can conclude that there is a significant effect of pelvic floor muscle training on back pain and functional disability in the activity of daily living. The change in pre and post-score supports this conclusion and the change in pain intensity is significantly lesser after the intervention.

## I.INTRODUCTION

While the rectum and other abdominal viscera serve as a "floor," urethra, anal, and vaginal orifices operate as constrictor or continence mechanisms (in females). Here, we'll examine the role of the pelvic floor muscles in anal and urethral opening and closure. In addition, there will be new discoveries. (1).

There are four bones that form the pelvis: the sacrum, ileum, the ischium, and pubis. True and false pelvises are separated by the brim of the pelvis. All the pelvic pieces that join together to create a single unit are called the symphysis pubis. Gynecoid, anthropoid, android, and platypelvic are the four types of female bony pelvis. The diaphragm of the pelvis is a vast yet thin muscular layer in the lower abdominal cavity. Feathers and muscles are threaded together to form long, sling-like structures that connect the pubic bone and Coccyx. Urogenital diaphragm, also known as the triangle ligament, covers the triangular anterior section of the pelvic outflow between the symphysis pubic and the ischial tuberosities of the pelvis. The urogenital system consists of diaphragms that are both above and below the pelvic diaphragms. (2). Blood and lymph vessels, nerves,

and fat connective tissue make up the retroperitoneal fascia thickening when it comes to the ligaments in the pelvic region, rather than conventional ligaments. Anatomists use the name subserous fascia to describe the retroperitoneal fascia, while surgeons use endopelvic fascia. The lateral walls of the vaginal canal and the cervix are thicker in connective tissue than other parts of the female reproductive system. The thin, mesenteric-like twin reflections that run along both sides of a woman's pelvic wall reflect the peritoneum twice. (3).

In the pelvic floor, the superficial and deep muscles are separated. Muscles in this group include the anal sphincter (also known as the puboperineal (or transverse) muscle), as well as the puboperineal (or transverse) perineal muscles. You'll want to keep an eye out for the puborectalis muscle as well as the puborectal muscles. The "middle" muscular layer of the pelvic floor is the puborectalis, a muscle located halfway between the superficial and deep layers of the pelvic floor. Both the circular and longitudinal smooth muscle fibres of the rectum extend into the anal canal during caudal extension, which results in the internal and external anal sphincters, respectively. (4). This section begins with an in-depth look at the anatomy of pelvic floor and anal sphincter muscles, including both well-known features and hotly debated ones (5)

## **METHODOLOGY**

Type of study: An Experimental Study

Sampling: Simple Random Sampling

Area of Project: Greater Noida

- No of Sample:
- Sample place: Multicentric Grounds

Inclusion Criteria:

- 1) Women between 21 to 45 years
- 2) Women who have a normal menstrual cycle
- 3) Healthy population
- 4) Women who do not perform many physical activities during the menstrual phase/daily activity.

Exclusion Criteria:

- 1) Women who are on contraceptives
- 2) Women who are on any kind of medicines concerning estrogen or progesterone levels
- 3) Women who are highly active during the menstruation phase
- 4) Women who have irregular periods.

Instrumentation:

1. Oswestry Disability Index
2. VAS
3. Clipboard and pen

### **Analysis of the article reviewed**

Data analysis was carried out using the SPSS 21.0 edition of the Social Science Packaging Software. To compare the pre and post readings, an independent T-test and a paired t-test were utilized. MS EXCEL 2016 is used to create graphical depictions.

**RESULTS**

In this study, by comparing the Pre and Post data we can say that there are significant effects of pelvic floor exercise on the disability and back pain in the activity of daily living. The pre-score for Oswestry Disability Index is  $82.20 \pm 8.398$  which is  $>$  than the post score of  $36.80 \pm 17.012$ . The Vas pre score is  $8.38 \pm 0.868$  which is  $>$  than the post score of  $4.95 \pm 1.616$ .

**WORK**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HOUSE WIFE	11	27.5	27.5	27.5
	TEACHER	8	20.0	20.0	47.5
	OFFICE STTAF	7	17.5	17.5	65.0
	FACTORY WORKER	14	35.0	35.0	100.0
	Total	40	100.0	100.0	

TABLE 1 – Shows the work field distribution of the subjects.

	N	MEAN $\pm$ SD
AGE	40	30.92 $\pm$ 6.040
WORKING HOURS	40	7.43 $\pm$ 1.430

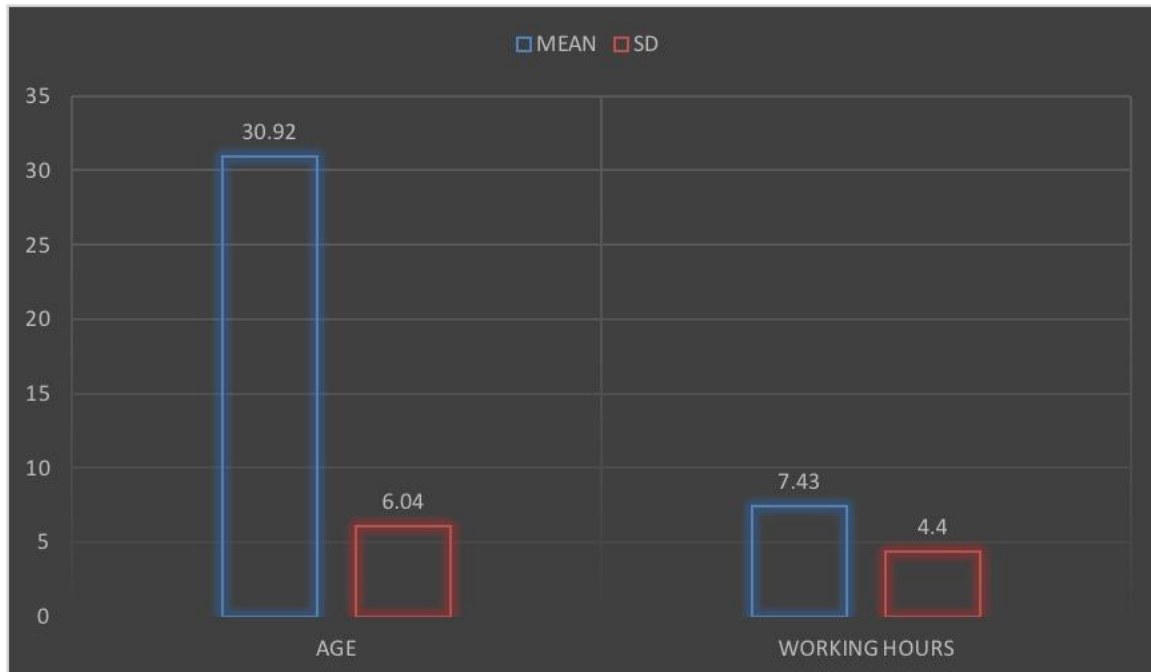
TABLE 2- shows the demographic details.

	SCORE	SCORE (%)	T-TEST	P-VALUE
PRE-DATA	41.10 $\pm$ 4.199	82.20 $\pm$ 8.398	61.906	P<0.05
POST DATA	18.40 $\pm$ 8.506	36.80 $\pm$ 17.012	13.681	P<0.05

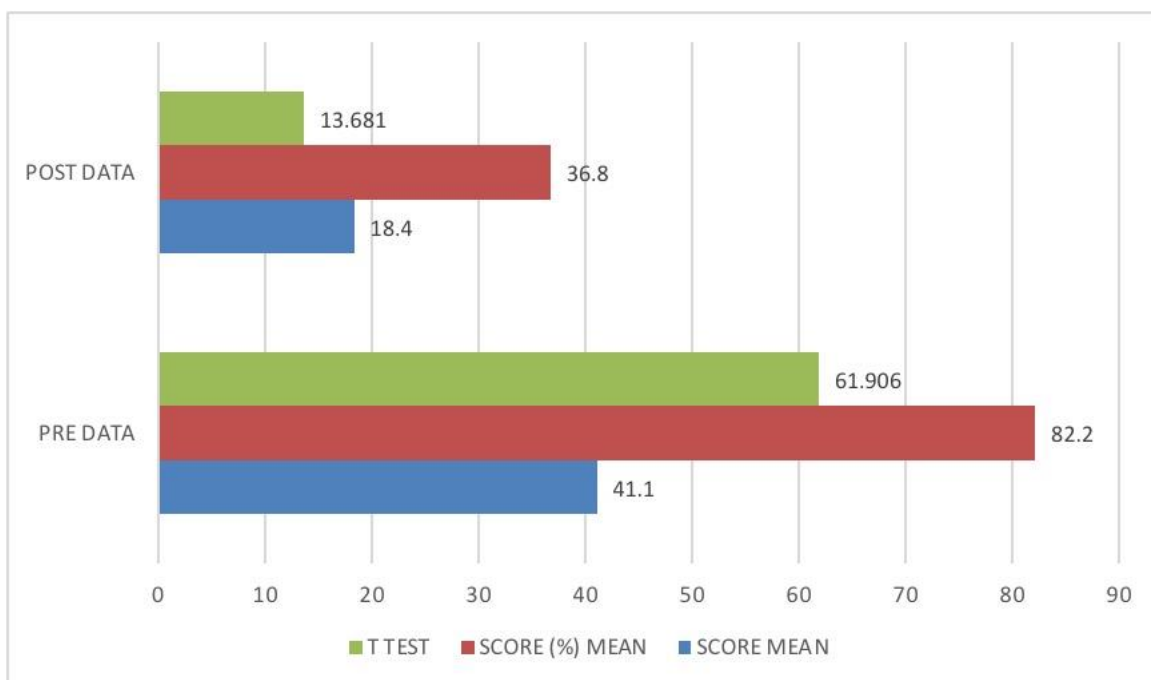
TABLE 3- Shows the pre and post score of the Oswestry Disability Index.

	MEAN $\pm$ SD	T TEST	P VALUE
VAS PRE DATA	8.38 $\pm$ 0.868	61.032	P<0.05
VAS POST DATA	4.95 $\pm$ 1.616	19.368	P<0.05

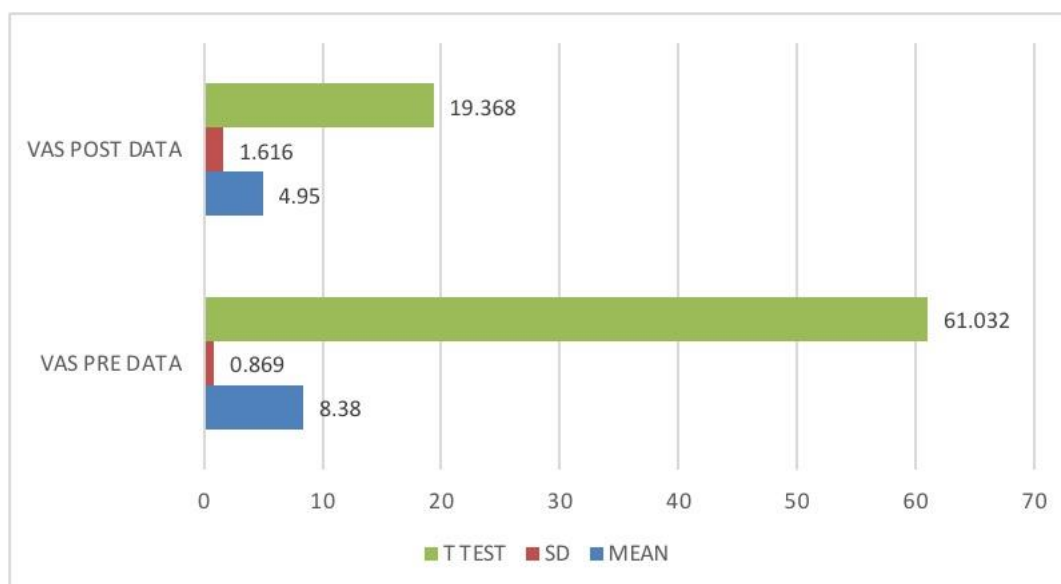
TABLE 4-Shows the scorings of VAS pre and post with T-test results.



GRAPH 1 – Shows the mean and sd of the demographic details.



GRAPH 2-Shows the pre and post-scoring of the Oswestry Disability Index with T-test value.



GRAPH 3 -Showing the data of VAS pre- and post-scoring with T-test values.

## Discussion

Ratings before and after intervention were shown to be substantially different. Pelvic floor muscle training may reduce back discomfort and functional restrictions in everyday life, according to the results of this study. At the Zahedan University of Medical Science physiotherapy clinic, 36 multiparous women with chronic postpartum Lumbopelvic pain were recruited by Teymuri et al. from January to November 2017. Visual Analog Scale, Oswestry Disability Index, and trans-abdominal ultrasound imaging were employed at baseline and six weeks after the intervention to quantify pain, disability and bladder base displacement, respectively. Compared to the control group, the training group experienced much reduced discomfort, impairment, and bladder displacement ( $P < 0.05$ ). Comparisons between the training and control groups revealed substantial differences across all measures ( $P < 0.05$ ). There were no significant variations in bladder base displacement between the control and experimental groups ( $P < 0.05$ ) ( $P < 0.05$ ). By lowering pain, dysfunction, and enhancing the function of the pelvic floor muscles, stabilisers may reduce postpartum lumbopelvic discomfort (17).

In 2019, Anna Szumilewicz and others started a new project. If you're pregnant and in great health, a well-designed fitness programme that includes aerobics, pelvic floor strengthening, and neuromuscular activity exercises may be useful. Aerobic and pelvic floor muscle exercises should be promoted in pregnant women who were more active before pregnancy, especially those who were more active before pregnancy. Women in Africa who are able to adequately contract their pelvic floor muscles may benefit from these ideas. (22).

## Limitations of the study

- 1} The sample size included in the study could have been more.
- 2} The physical activity performed could be more vigorous.

## Recommendations for future studies

- 1} The study can be used for identifying the effect of physical activity on pain, mood, and cognitive functions during menstruation.
- 2} Further researches can be done with a properly structured exercise program.

## Conclusion

By this study, we can conclude that there is a significant effect of pelvic floor muscle training on back pain and functional disability in the activity of daily living. The change in pre and post-score supports this conclusion and the change in pain intensity is significantly lesser after the intervention.

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