

Effect of Kegel's and Core Strengthening Exercises in Erectile Dysfunction

Kalindi Dev¹, Mamta Dagar², Nitesh Sura³

¹ Ph. D, Assistant Professor, Department of Physiotherapy, GJUS&T, Hisar

² MPT, Assistant Professor, Faculty of Physiotherapy, GD Goenka University, Gurugram

³ BPT

Abstract: *Erectile Dysfunction concerns male sexual dysfunction, regarding the inability of an individual to get an erection firm enough during sexual intercourse and keep focus on hormonal, neurological and vascular issues. The muscles of pelvic floor also play an important role in sexual activity. Prevention of outflow of blood to enlarges the penis and increase in penile rigidity is attain by the contraction of ischiocavernosus and bulbocavernosus muscle, which is one of the causes of such dysfunction. Pelvic floor strengthening exercises are very effective treatment for erectile dysfunction. 09 subjects age range from 20 - 35 years were included in the study on the basis of International Index of Erectile Function (IIEF). Kegel's exercise plus bridging, plank's, SLR and squats for 3 weeks, duration of weekly sessions was increased after every week. The standard deviation, pre intervention 3.4091 and post intervention 3.4545 and T value was 0.0111 and the P value was 0.9914 which shows that the result is not significant at $p < 0.05$. The participants showed no improvement in their erectile function except one showed slight improvement. Limitation of Study: The intervention duration was not enough to show the significant result.*

Keywords: Kegel's exercise, core strengthening exercises, erectile dysfunction, pelvic floor muscles, International Index of Erectile Function (IIEF)

1. Introduction

Sexual intercourse, as it concerns male sexual dysfunction, is regarding the biological factors has Erectile dysfunction (ED) is the inability of an individual to get and keep an erection firm enough for focused on hormonal, neurological and vascular issues. Biological contribution of pelvic floor disorders (pelvic floor muscles weakness) to male sexual dysfunction. This disorder can significantly affect the mental health and quality of life in man, and may also have a wider impact on the sexual health and psychological issues with their partner as well [B. D. Chourasia 2018].

The treatment currently given for erectile dysfunction includes intraurethral therapy, intracavernous injections, vacuum devices, androgen replacement therapy, psychotherapy and surgery. The muscles of pelvic floor also play an important role in sexual activity. Prevention of outflow of blood to enlarges the penis and increase in penile rigidity is attain and maintained by the contraction of ischiocavernosus and bulbocavernosus muscle.

Causes of the ED are as: Physical causes such as heart and cardiovascular disorders, low testosterone level, diabetes, obesity, lack of physical activity, alcoholism, smoking (active/ passive), drugs, injury to the penis and spine, post - surgery of pelvic floor, prostate, nerve and spinal cord. Psychological causes such as depression, anxiety, stress due to relationship problem and poor mental health and fear of failure.

It is estimated that by 2025, 322 million men will suffer from erectile dysfunction (ED). ED is defined as the persistent inability to achieve and/or maintain a penile erection sufficient for satisfactory sexual performance. This disorder is a sexual dysfunction (SD), defined as the

inability to achieve any or all stages of sexual activity, of which, according to Helen Kaplan, five exist: desire, arousal, plateau, orgasm, and resolution, referred to by the acronym DEPOR. Male SD includes hypoactive sexual desire in the desire phase, ED in the arousal phase, and premature ejaculation in the orgasm phase. These disorders may have psychogenic, organic, or a combination of causes [Ciaccio, V *et al.*, 2022]. The worldwide prevalence of ED was 3% to 76.5%. Every 10th men in the world have been affected by ED once in their life. ED affects 10% per decade of life as 40% of the men of 40 years of age have been affected at least once in their life. A study was conducted in 8 major countries ED with 37.2% (Brazil), 48.6% (Italy). Patients in Brazil (>18: 43.85 vs.52.35; aged 40 - 70: 52.94 vs.56.76 years; for both, $P < 0.5$) than United States [Anna Kessler *et al.*, 2019].

When we talk about prevalence of ED in Asia on the bases of studies it shows that Philippines has the highest (65%) which is followed by Thailand (63%), Malaysia (59%), Singapore (53%) and Hong Kong (50%) and the overall range is about 2% to 65% [Kwangsung Park *et al.*, 2011].

In India 21.15% of the male subjects were diagnosed to have one (or more) sexual disorder. Prevalence of erectile dysfunction was found to be 15.77%, male hypoactive sexual desire disorder (HSDD) 2.56%; premature ejaculation was found to be prevalent in 8.76% of the male subjects. Around 14% of the female subjects were diagnosed to have female sexual disorders. Prevalence of female arousal dysfunction was found to be 6.65%, female HSDD 8.87%, female anorgasmia 5.67%, female dyspareunia 2.34% and female sexual aversion disorder was found to be prevalent in 0.37% of the female subjects. statistics indicates that 50% of the men population over 40 years experienced ED. Initially

Volume 12 Issue 3, March 2023

www.ijsr.net

Licensed Under Creative Commons Attribution CC BY

it starts at a younger age with a prevalence of 6% per decade [Sathyanarayana Rao TS *et al.*, 2015].

2. Aim and objective of the research:

The aim of this research is to figure out the effect of Kegel's and core strengthening exercises in erectile dysfunction.

Hypothesis: There is an effect of Kegel's and core strengthening exercises in erectile dysfunction.

Null hypothesis:

There is no effect of Kegel's and core strengthening exercises in erectile dysfunction.

Significance of the research:

Very few studies have been done in the past on treatment of the erectile dysfunction by Kegel's exercise (pelvic floor strengthening) and core strengthening exercise separately but the effects of these interventions when used for shorter time have not been explored till now, with its results this research may be able to bring new reference for the minimum duration of the interventions for the betterment of the erectile functions and awareness for physiotherapy.

Sample design:

Randomised Controlled Trail

Sampling size:

09 subjects with ED were taken from ataman clinic, Urban Estate II, Hisar.

Inclusion criteria:

- Males of 20 - 35 years of age were taken in the study
- Patients with ED from the past 6 months
- Sexually active form last 3 months
- IIEF (EF - score not >25) acc. to IIEF questionnaire
- Not involving in aggressive sports activity

Exclusion criteria:

- Heart and cardiovascular disorders
- Low testosterone level
- Diabetes, obesity
- Lack of physical activity
- Alcoholism
- Smoking (active/ passive)
- Drugs
- Injury to the penis and spine
- Post - surgery of pelvic floor, prostate, nerve and spinal cord
- Depression
- Anxiety
- Stress due to relationship problem and poor mental health and fear of failure
- Actively participating in sports
- Muscular dystrophy

Outcome measure:

Outcome measure was erectile function domain of International Index of Erectile Function (IIEF) [Rosen RC *et al.*, 2002]. questionnaire with a baseline of 3 weeks. There were a set of 6 questions related to their present erectile

function (Over the last month, how often were you able to get an erection during sexual activity?) with a scoring of 0 - 5 points:

- 5 Almost always or always
- 4 Most times (much more than half the time)
- 3 Sometimes (about half the times)
- 2 A few times (less than half the time)
- 1 Almost never
- 0 No sexual activity

Questionnaire score format

All these questions were broken into 5 areas with their scoring in the columns as follows.

Area	Questions	Score Range	Maximum Score	Patient's Score
Erectile Function	1 - 5 & 15	0 - 5	30	
Intercourse Satisfaction	6 - 8	0 - 5	15	
Orgasmic Function	9 - 10	0 - 5	10	
Sexual Desire	11 - 12	0 - 5	10	
Overall Satisfaction	13 - 14	0 - 5	10	

Interventions:

Exercise Protocol

Week Duration Rest Time Repetitions Sets

Kegel's Exercise

0 - 1	2 minutes	1 minute	3	6
1 - 2	3 minutes	1 minute	5	6
2 - 3	5 minutes	1 minute	7	6

Bridging Exercise

0 - 1	5 minutes	1 minute	5	6
1 - 2	7 minutes	1 minute	7	6
2 - 3	10 minutes	1 minute	10	6

Plank

0 - 1	5 - 7 minutes (30 seconds each)	1 minute	3	3
1 - 2	6 - 8 minutes (45 seconds each)	1 minute	3	3
2 - 3	9 - 11 minutes (60 seconds each)	1 minute	3	3

SLR (STRAIGHT LEG RAISE)

0 - 1	2 minutes	1 minute	5	6
1 - 2	4 minutes	1 minute	7	6
2 - 3	6 minutes	1 minute	10	6

SQUATS

0 - 1	2 minutes	1 minute	7 - 8	6
1 - 2	4 minutes	1 minute	10	6
2 - 3	6 minutes	1 minute	12 - 15	6

Duration for weekly sessions:

1st week - 18 minutes

2nd week - 26 minutes

3rd week - 37 minutes

3. Data Analysis

Statistical analysis was performed using SPSS software, and the data are presented as the mean \pm SD. Variables i. e., Pre and Post IIEF scoring of the experimental group were

compared using the t test. Differences were considered significant if $p < 0.05$.

Table 1.1: Table shows the values of mean, standard deviation, T value and P value.

Variable	Mean	SD	T - Value	P - Value	Result
Pre	7.0220	3.4091	0.0111	0.991415	Not significant
Post	7.0460	3.4545			

Interpretation: The table 1.1 explains the parameters i. e., mean value, standard deviation of pre and post intervention stage of IIEF scoring. During pre - intervention stage, the mean value is 7.0220 and the standard deviation is 3.4091. During post intervention stage, the mean value is 7.0460 and the standard deviation is 3.4545. the T - value is 0.0111 and the P - value is 0.991415.

There are only a few studies has been done on erectile dysfunction with Kegel's and core strengthening exercise.

There was a total of 09 males with ED and age range from 20 - 35 years who were selected for this study. The IIEF - EF (erectile function) with a range from 6 - 18 and the mean was 7.0220. Post intervention mean value was 7.0460.

The standard deviation was found to be pre intervention 3.4091 and post intervention 3.4545. Also, the T. value comes out to be 0.0111 and the P value comes out to be 0.991415 which shows that the result is not significant at $P < 0.05$.

By studying all these cases for the duration of 3 weeks, the participants show no improvement in their erectile function except one who show slight improvement.

Limitation of Study:

The intervention duration was not enough to show the significant result.

Future Study:

Study can be performed for a longer duration and on large sample size.

4. Conclusion

Effect of Kegel's and core strengthening exercise on men with erectile dysfunction as an intervention for the shorter duration of time shows no to negligible improvement in their erectile functions.

References

- [1] Anna Kessler' Sam Sollie' Ben Challacombe' Karen Briggs' Mieke Van Hemelrijck Affiliations expand. "The global prevalence of erectile dysfunction" 2019 Jul 2. *BJU Int*. PMID: 31267639.
- [2] Kwangsung Park, Eu Chang Hwang, Sun - Ouck Kim "Prevalence and medical management of erectile dysfunction in Asia" 2011 Jul; *Asian J Androl* 13 (4): 543-549.
- [3] B. D. Chourasia's "A textbook of human anatomy" volume 2, edition seventh, chapter - 17 Pg: 217 - 229 (2018).

- [4] Ciaccio, V; Di Giacomo, Dina. "Psychological Factors Related to Impotence as a Sexual Dysfunction in Young Men: A Literature Scan for Noteworthy Research Frameworks". *Clin. Pract.* 2022 (12): 501-512.
- [5] Sathyanarayana Rao TS, Ismail S, Darshan MS, Tandon A. "An epidemiological study of sexual disorders in south Indian rural population" 2015 Apr - Jun; *Indian J Psychiatry* 57 (2): 150-157.
- [6] Rosen RC, Cappelleri JC, Gendrano N III. "The International Index of Erectile Function" (IIEF): a state - of - the - science review. *Int J Impot Res* 2002; 14 (4): 226 - 244.