International Journal of Physiology, Sports and Physical Education
www.physicaleducationjournal.net
Online ISSN: 2664-7729, Print ISSN: 2664-7710
Received: 19-02-2022, Accepted: 04-03-2022, Published: 19-03-2022
Volume 4, Issue 1, 2022, Page No. 23-26

Impact on pelvic floor in post covid–Phase: Review

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DOI: https://doi.org/10.33545/26647710.2022.v4.i1a.33

Abstract
Background and Introduction: Pelvic floor therapist understands that both respiratory dysfunction and hospitalization can have an impact on pelvic floor function. The long term effects of Covid -19 could affect the pelvic floor as well as some generalized treatment consideration. Stress &anxiety leads to pelvic floor dysfunction.
Objective: The aim of this study is to cognize the role of physiotherapy & the impact of COVID-19 on pelvic floor.
Methodology: Relevant articles were identified by searching from: PuBMed, Science Direct, Ebsco, SCOPUS, Web of Science, shodhganga, Elsevier, Google Scholar, academia. Four scientific studies were found related to impact on pelvic floor in post covid – phase.
Results: More than 10 recent articles are on pelvic floor in which 04 articles are matched with impact on pelvic floor in post covid – phase. Physiotherapy supervision includes exercises which have demonstrated to have a great efficacy on protocol of Pelvic floor – like Keagel & bridging exercise.
Conclusion: Pelvic floor muscle has been dramatically affected by the covid-19 outbreak. Because of the pervasive nature of this virus, pelvic floor physical therapist should be a part of the rehabilitation team treating these patients once they have become medically stable.

Keywords: covid, keagel, physiotherapy

Introduction
The pelvic floor is made up of a layer of muscles covering the bottom of the pelvis that support the bladder and bowel in men and bladder, bowel and womb in women. The pelvic floor is a funnel-shaped structure covering the base of the pelvis from the pubic symphysis anteriorly to the coccyx posteriorly and stretches from one ischial tuberosity to the other. It consists of two main muscles, the levator ani, and the coccygeus. The long term effects of Covid -19 could affect the pelvic floor as well as some generalized treatment consideration. Stress & anxiety leads to pelvic floor dysfunction.

Definition
It is inability to correctly relax & coordinate pelvic floor muscles to have a bowel movement.

Sign and Symptoms of pelvic floor dysfunction
There are a few well-known signs and symptoms that people experience when they have a problem with their pelvic floor muscles. The following list of signs and symptoms are common for people with weak pelvic floor muscles. Urinary dysfunction, erectile dysfunction, premature ejaculation, painful ejaculation, and chronic pelvic pain are some conditions that can be linked with weak pelvic floor muscles.

Men
- Bowel strains
- Ongoing pain in your pelvic region, genitals or rectum.
- A prolapsed – may feel as though there is a bulge/ pressure in the rectum or a feeling of needing to use your bowels without actually needing to go
- Accidentally leaking urine when you exercise, laugh, cough or sneeze.
- Feelings of urgency in needing to the bathroom, or not making it there in time.
- Frequent need to urinate.
- Difficulty emptying your bladder (discontinuous urination – stop and start multiple times) and bowels.
- The feeling of needing to have several bowel movements during a short period of time.
- Accidentally passing wind.
- Pain in your lower back that cannot be explained by other causes.
- Pain in the testicles, penis (referred pain from the pelvic floor) or pelvis during intercourse.
- Erectile dysfunction.
- Painful ejaculation.

- Premature ejaculation.

Women

- Pain or numbness during intercourse.
- Ongoing pain in your pelvic region, genitals or rectum.
- A prolapse – may be felt as a bulge in the vagina (feeling or seeing a bulge or lump in or coming out of your vagina) or a feeling of heaviness, discomfort, pulling, dragging or dropping sensation.
- Accidentally leaking urine when you exercise, laugh, cough or sneeze (stress incontinence).
- Feelings of urgency in needing to the bathroom, or not making it there in time.
- Frequent need to urinate.
- Difficulty emptying your bladder (discontinuous urination – stop and start multiple times) and bowels.
- The feeling of needing to have several bowel movements during a short period of time.
- Constipation or bowel strains.
- Accidentally passing wind.
- Pain in your lower back that cannot be explained by other causes

There are a few well-known signs and symptoms that people experience when they have a problem with their pelvic floor muscles. The following list of signs and symptoms are common for people with weak pelvic floor muscles. Urinary dysfunction, erectile dysfunction, premature ejaculation, painful ejaculation, and chronic pelvic pain are some conditions that can be linked with weak pelvic floor muscles.

Risk Factors

The chances of developing pelvic floor dysfunction among men and women have increased over the past few years. The incidence of pelvic floor problems is predicted to increase by 35% between 2010-2030.

These statistics emphasize the importance of expanding knowledge related to the risk factors for pelvic floor dysfunction. When assessing a patient, physiotherapists should focus on a detailed subjective examination including past medical history and presenting condition/complaint, as this may reveal potential predispositions. Goal-centered conversations with the patients can provide guidance in planning treatment, and where applicable, liaising with appropriate healthcare professionals to ensure a holistic approach to care.

In Men, Prostate surgery: In general, scientific literature examining pelvic floor dysfunction among males is limited. However, prostate surgery has been identified as a potential risk factor. Specific pelvic floor disorders include urinary incontinence and erectile dysfunction, which are quite common post-operatively (up to 89% of men suffer from these conditions). Individuals who undergo this procedure may experience disturbance in pelvic floor muscles (especially urinary sphincters) and altered nerve supply to the area. In prostatectomy, the prostate (partially regulating continence) is removed, increasing the probability of incontinence. The urinary sphincter nerves may occasionally be damaged during surgery due to their proximity to the prostate. As a result, the patients might later experience poor bladder control. Cavernous nerves, which are responsible for erectile function, may also be disrupted.

In Women, Hysterectomy (surgical removal of the uterus): This procedure often damages and weakens the pelvic muscles. Therefore, it may be a predisposing factor for pelvic organ prolapsed. The incidence of postoperative complications after hysterectomy, including urinary and fecal incontinence was significantly higher in the group who undertook the surgery for vaginal prolapse compared to a control group with no diagnosis of prolapse. Being middle-aged, as an additional factor to post-hysterectomy, increases the risk to 60% for developing urinary incontinence.

Pregnancy and the nature of childbirth: Overstretching/damaging of the pudendal nerve during vaginal birth, prolonged labour, instrumental (forceps) delivery, episiotomy (surgical procedure to increase opening in vagina), weight and number of children (parity) have also been known to increase the pelvic floor dysfunction risk by 4-16%. These findings have been supported through biomechanical models of the pelvic floor. The researchers revealed that during the crowning of the fetal head in a vaginal birth, there is a greater risk for the avulsion of levator ani leading to a potential prolapse. Additionally, an episiotomy has been suggested to increase anal lacerations and therefore, incontinence risk.

- **In both gender, previous trauma to the pelvic region (e.g. fall or pelvic radiotherapy):** This is particularly common in less physically active men who underwent pelvic radiotherapy for prostate cancer. The side effects of the treatment, including decreased tone of pelvic floor muscles, are more prominent in this group of patients. As a result of the pelvic muscles weakening, men are more susceptible to experience erectile impairment and urinary incontinence symptoms.
- **Constipation/heavy lifting:** Constipation is caused by the altered mechanics (incoordination) of the pelvic floor muscles and an increase in intra-abdominal pressure during attempted evacuation. These persistent conditions can lead to nerve damage and the appearance of pelvic floor dysfunction symptoms, such as fecal incontinence. The common risk factors for both males and females have been illustrated in the diagram below in yellow circles. Risks unique to each gender include blue circles for males and pink for females.

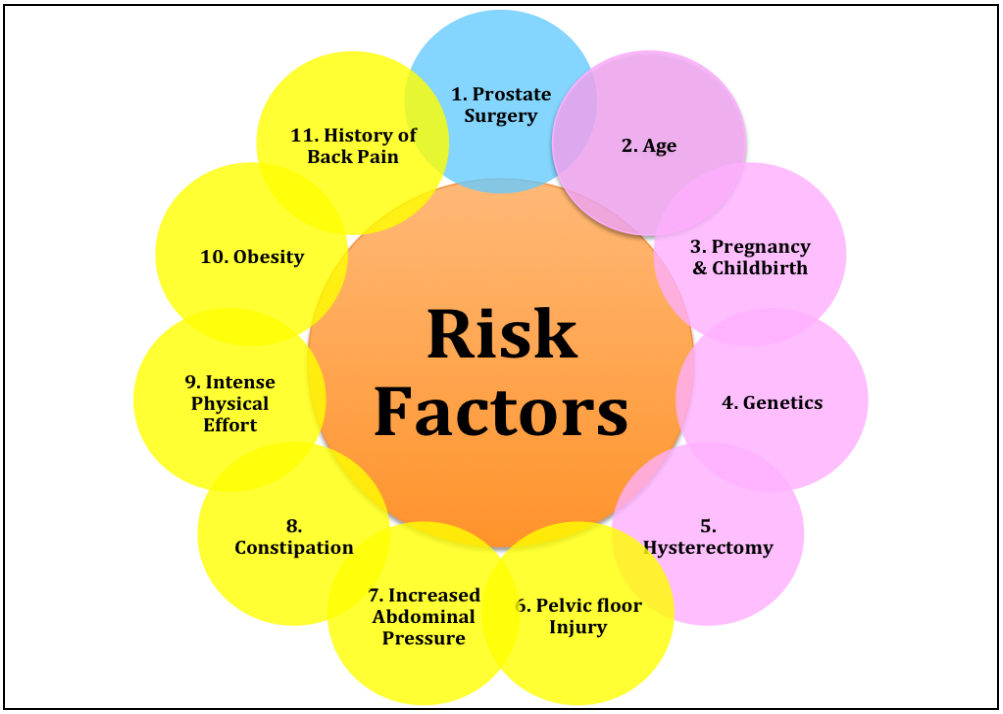

Fig 1

Physiotherapy Treatment

Physiotherapy is the first line of treatment for those who are diagnosed with a form of pelvic floor dysfunction. Although the literature in this area is limited, there is some evidence highlighting the importance of physiotherapy. The research has mainly focused on the role that physiotherapists can play through education on lifestyle modifications and through exercise prescription. Evidence that was identified for both of these areas is summarised below. Lifestyle-Weight loss is associated with improvements in urinary incontinence (UI), particularly when combined with exercise· Strenuous activity or heavy lifting may be a predisposing factor for prolapse. There is limited evidence to support this and recommendations appear to be based on an understanding of the anatomy and physiology of prolapsed· Some evidence suggests that decreasing fluid intake by 25% may decrease frequency, urgency, and nocturia but may not improve incontinence.

Pelvic floor muscle training (PFMT) has been shown to be beneficial for both urinary incontinence and prolapse symptoms. A randomised control trial in adult women with pelvic floor dysfunctions suggests that using an intravaginal vibratory stimulus (IVVS) helps in improving the pelvic floor muscle strength as compared to intravaginal electrical stimulation (IVES). Pelvic floor training also seems to improve sexual function. pelvic floor muscle training can improve sexual function or at least one sexual variable in women with pelvic floor dysfunction.

Kegal exercises involve the isometric contraction of the pelvic floor muscle. This can be described as the sensation of stopping urination mid-flow, ideally contracting from back to front. The exercises are necessary to help produce sufficient strength, co-ordination and endurance to deal with life post-partum and the effects of ageing

Materials and Methods

Study Design

Narrative Study/Literature Review

Source of data

Cohrane literacy, Google scholar, SCOPUS, academia, Shodhganga, PuB Med, Research Gate & Academia.

Results and Discussion

More than twenty recent articles are on pelvic floor in which fifteen articles are matched with impact on pelvic floor in post covid – phase.

Physiotherapy supervision includes exercises which have demonstrated to have a great efficacy on protocol of Pelvic floor – like Keagel & bridging exercise.

Conclusion

Pelvic floor muscle has been dramatically affected by the covid-19 outbreak. Because of the pervasive nature of this virus, pelvic floor physical therapist should be a part of the rehabilitation team treating these patients once they have become medically stable.

Now a day's pelvic floor dysfunction increasingly worldwide, it is important to empower patients in seeking advice and treatment for pelvic floor dysfunction, in addition to managing their condition in the long term. While the subject of pelvic floor health is not a new concept to the physiotherapy profession, the awareness of the public to seek help is still requiring further work. With advancements in healthcare, the ageing population is living with more comorbidities such as cancer, obesity, and stroke which impacts on their quality of life. Poor lifestyle choices (ex. poor diet and sedentary behaviour) are contributing to these comorbidities. Furthermore, these conditions have been found to correlate with pelvic floor dysfunction.

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