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Case Report

Rehabilitation of hypotonus pelvic floor muscles with a telerehab approach- Case report

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ABSTRACT

Pelvic floor muscle is a group of muscles which acts as a Sling to Support, Assist and Aid the functions of Bladder, Bowel and Sexual activities. Hypotonus Pelvic floor muscle Dysfunction is a common condition suffered by Postmenopausal women where the strength of the Pelvic muscles reduces. Mostly reported is the incidence of Urinary incontinence and Pelvic organ prolapse. There are Various Proven Exercises, Equipments and Interventions which can be administered for the Hypotonus rehabilitation however due to the Covid- 19 Pandemic lockdown and with Social distancing there was a dearth felt by the Pelvic floor therapist for the rehabilitation of the Pelvic floor concern. This case report discusses the Telerehab approach and Progression Intervention for the Hypotonic Pelvic floor rehabilitation by Improving the Strength and the Quality of life of the women during such times when reaching the Pelvic floor therapist is difficult.

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1. Introduction

Pelvic floor is a group of muscles and ligaments which form the floor of the Pelvic Bone as a Sling, Supporting and Assisting in the function of Bladder, Bowel and Sexual activities.¹ Any pathology to the normal functioning of the Pelvic floor leads to the Dysfunction of the floor giving rise to various concerns such as Bladder or Fecal Incontinence, Sexual dysfunction or Organ Prolapse in female.²

Hypotonus pelvic floor muscle dysfunction is a very common Pelvic floor dysfunction seen in the women during the Perimenopause and Post Menopause phase. In Hypotonus Dysfunction, the Pelvic floor strength reduces, making it weak and unstable for the organs to function. Most commonly reported concerns in women are Urinary incontinence (Stress, Urge and Mixed) and Pelvic organ prolapse.³ There are various effective Exercises, Instruments and Rehabilitation interventions designed to

improve the strength but during the Covid-19 Pandemic Lockdown, struck in the year 2020 and 2021 reaching the clients was not efficient for the therapy. With the concept of Work from Home during the lockdown and with the social distancing norm, all the non-emergency Medical assistance was provided Online introducing the concept of Tele medicine.⁴ The present case report discusses the Telerehab approach to strengthen the Hypotonus Pelvic floor muscles and Improve the Quality of life of the women, which is a new approach to rehabilitate the pelvic floor on an Online platform, during the Lockdown or at times of social distancing and physically reaching the clients is not possible. This will be a source of literature to the dearth felt by most of the Pelvic floor therapist in their clinical practice during such times.

2. Case Report

Two Multiparous Postmenopausal women, 58 years and 47 years respectively connected between Sept 2020 and

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March 2021 for a Tele- Pelvic floor consultation having similar complains of dribbling of urine during High impact exercises at the Gym and during household chores particularly on squatting and lifting weights from the floor since a year. A Consent form clarifying the Norms and the Benefits was shared over a mail prior to the consultation and on the scheduled day the clients were connected via Zoom platform. Both clients were Home makers and Multiparous women, Client A had history of both Normal Vaginal deliveries with Episiotomy and Client B with Assisted Vaginal Delivery and Caesarean section. Both reported to have a healthy Perineal hygiene, with no associated Pelvic organ prolapse or Sexual dysfunction based on the clinical history asked during the consultation. Each were taught the Pelvic floor strength- Self testing method on a Pelvic model by the therapist following which they had to assess their pelvic floor strength and report on the Modified Oxford scale. Along with the self-testing, Two questionnaire namely The Questionnaire for Urinary incontinence Diagnosis (QUID) to determine the type of incontinence and Kings health questionnaire to assess the Quality of life were administered. Based on the Clinical history and the Examination Tools, both of them were diagnosed with Stress urinary incontinence associated with Pelvic floor weakness. The Baseline score of the Pelvic floor strength and the Questionnaire was noted and both were assigned for a 20 Telerehab sessions for the Hypotonous Pelvic floor rehab. The sessions were conducted 3 times a week, 45 min each, via Zoom platform at the convenient time of the Subject.

2.1. Intervention

2.1.1. Awareness and Isolation

The Rehabilitation begin with a Pelvic floor awareness on the Pelvic model, Self-Palpation and Isolation of the Pelvic floor in a Semi reclined position. A Mirror was advised, as a biofeedback for better understanding of the Pelvic floor structures and for differentiation of the Urogenital and Anorectal triangle. Various Verbal cues were given to activate the Fast twitch fibers and to isolate the Pelvic floor muscles which could be helpful for further rehabilitation. The progression of the awareness was done by similar activation in different functional position such as Supine, Side-lying, Quadruped, Sitting, Standing and Squatting.

2.1.2. Movement training and coordination

Following the Pelvic floor Isolation and Activation, the Activation of the other core muscles and their Coordination- Diaphragm, Multifidus, Transverse abdominis was taught in various form of Static exercises gradually progressing to the Dynamic exercises.

2.1.3. *Neuromuscular reeducation and functional training*
Activation and Coordination of the Core muscles during Routine functional position was used in different exercises e.g squatting or stairclimbing for reeducating the core muscles.

2.1.4. Device

To Begin, Vaginal cone exercises were administered without weights in supine position gradually progression to increased weights and using them during functional activities

2.1.5. Home exercise program

A Regular home exercise program was given to the subjects which was assessed and monitored by the treating Therapist on the Mobile application for Pelvic floor training.

The outcome measures and the Self-testing was administered on a Review-10th session and then at the end of the 20th session.

3. Results

By the 10th session (Review) a gradual improvement was noted in the chief complains of the subjects to no dribbling by the 20th session. The Self testing of pelvic floor strength is gradually improved during the course of the rehabilitation program (Table 1). The outcome measures used have also shown a clinically significant improvement in the Symptoms and the Quality of life of the subject. (Table 1) The score for the Quality of life by the Kings health questionnaire is shown to significantly improve with the 20 sessions. Also the questionnaire of urinary incontinence score has shown a significant improvement.

4. Discussion

The Telerehab approach administered in the following Hypotonus cases has shown a significant improvement in the Pelvic floor strength and the Quality of life of the subjects. The results of the report show a Positive response to Telerehab approach, which is similar to the study done by Kinder et al. proving that Telerehabilitation has the potential to deliver quality care to the concerned⁵ and can be considered as a new platform for rehabilitation during times when reaching the Pelvic floor therapist gets difficult. A systematic review conducted by Kyannie et al. also supports the report, stating a significant Improvement by Telehealth in the Pelvic floor function, Urinary symptoms and Quality of life.⁶ Both the subjects in this report had a homogeneity with their Onset and Type of symptoms, Obstetric history and Phase of menopause and hence showed a positive significance to the same protocol.

Supporting the study done by Kelli et al., stating increased knowledge of the Pelvic floor has a Positive association with reduced Pelvic floor dysfunction,⁷ the

Table 1: Findings of the Subjects at Baseline (I), Review (II) and Post intervention (III)

Subjects	Self-testing- Modified oxford scale			Kings' health questionnaire			The Questionnaire for Urinary Incontinence		
	I	II	III	I	II	III	I	II	III
Subject A	3/5	4/5	4/5	22	20	19	8	6	5
Subject B	2/5	3/5	4/5	25	20	17	9	8	6

current protocol for rehabilitation begins with Pelvic floor awareness using a Mirror and Pelvic model, and Understanding the Pelvic floor structures which helped the subjects in knowing the pelvic floor better and effective integration of the pelvic floor muscles during the complete program. This initial step made sure that the accessory muscles didn't get activated such as the adductors, gluteus and the abdominals while training the pelvic floor. Timely and Regular verbal cues in their Vernacular Language, given to the subjects enhanced the outcomes and differentiation from the Anorectal and Urogenital triangles. Activation and Coordination of the Pelvic floor with other Core muscles taught to the subjects in different functional positions, assisted in maintaining and reflexively engaging the pelvic floor while doing the daily chores. This finding supports the Magdalena et al. results.⁸ The subjects were advised and taught to Engage the Pelvic floor muscles during various functional activities which enhanced the effectiveness of the rehabilitation by recruiting the muscles reflexively during daily chores. Hence it is clinically important to Reeducate a muscle by functional training. The strength of the pelvic floor was increased by adding Vaginal cones training in current report. The vaginal cones were advised to administer during the awake leisure time of the subjects which would keep the pelvic floor activated even during rest. Gradual increase in the weight progressing from 5gm to 20 gm helped as a resisted training and also a biofeedback to the subjects and boosting their confidence. The current finding second to the findings of Pooja et al where vaginal cones were used for strengthening of the pelvic floor muscles in Indian women.⁹

To maintain the continuity of the rehabilitation on the other days of the week, the subjects were given Home exercises program. The home exercises were monitored and tracked by the treating therapist, over a Pelvic floor strengthening mobile application downloaded by the subjects on their smartphones for the regularity and punctuality of the program. This helped to maintain the progress and achieve the desired goals. Exercising in the home environment reduced the fear of Covid 19 disease and Embarrassment related to the concern which helped to maintain the compliance of the Subjects to the program. The protocol that was administered in the current case report was designed based on Bary et al. findings of "The 5 F's concept- Find, Feel, Force, Follow, through functional training" for strengthening of the Pelvic floor.¹⁰ A Step by Step protocol from Awareness to Recruiting the muscles

reflexively during functional tasks discussed in this report, is first of its kind in the literature. The larger study with a control group can be done as a further scope to the current report. A clinical tool or questionnaire for assessing the pelvic floor strength through Telerehab approach was the limitations faced by the treating therapist.

5. Conclusion

The case report concludes that Hypotonic Pelvic floor muscles can be rehabilitated Effectively with a Tailored, Supervised and Systematic Telerehab approach in times of Covid 19 pandemic lockdown, during Social distancing and at times when its difficult to reach the Pelvic floor therapist.

6. Source of Funding

None.

7. Conflict of Interest

The authors declare no conflict of interest.

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