

EFFECT OF PHYSIOTHERAPY INTERVENTIONS (TANZBERGER APPROACH) IN MARRIED WOMEN WITH URINARY INCONTINENCE

Hypothesis/ Aim of study

Urinary Incontinence has been estimated to affect 20% to 33% of adults or 11% to 55% of the elderly worldwide. (1) Stress Urinary Incontinence being the third highest lifetime cost for medical management after Coronary Vascular Disease and Diabetes. (2) Conservative management of Urinary Incontinence include pelvic floor muscle exercise, biofeedback using perineometer, weighted vaginal cones, interferential therapy, bladder training, behavioral training (Bladder control, pelvic floor exercises, life style modification). Tanzberger approach concept was developed by German physical therapist Heller and Tanzberger which was derived from Klein-Vogelbach. The goal of this program was to integrate the function of the entire abdominal compartment as a procedural program. (3) Lack of any randomized controlled trial for the Tanzberger approach concept has led to the development of this study. So, the aim of this study is to assess the impact of pelvic floor muscle strength training using Tanzberger approach in patients with urinary incontinence.

Study design, materials and methods

Randomized controlled trial. Two hundred forty six married women aged 18 years and above with symptoms of Urinary incontinence participated in this study. Sample size was calculated using a pilot study data. Anticipating a between group variance of 18 and a within group variance of 11 (based on pilot study), for a clinically significant difference of 2 in the change in perineometer – a power of 80% at 95% confidence level with pre and post intervention measurements a minimum of 92 subjects is required in each arm of the study. Accounting for a loss to follow up of 25%, 123 subjects need to be recruited in each arm of the study. Subjects with urinary incontinence were evaluated pre intervention for the pelvic floor muscle strength using manual muscle testing and perineometer and then randomized into control and intervention group. Cluster randomisation was done to allocate the subjects into the control and the intervention groups to avoid contamination. The duration of intervention was 12 weeks. Control group received pelvic floor muscle exercise alone and were advised exercise once. The intervention group received Tanzberger approach excluding swiss ball exercises and were advised about the exercise once a week for a period of three months, every week the progression was made. Tanzberger approach included pelvic floor muscle exercises, diaphragmatic breathing exercise, bridging, pelvic rotation, static abdominal exercise progressed to dynamic abdominal exercise and synchronization of pelvic floor exercises with activities of daily living. At the end of 12 weeks, post intervention evaluation of pelvic floor muscle was done.

Results

Repeated measures ANOVA on rank transformed data was done, as the data was either ordinal or skewed. Mean age of the women in this study was 44.6 ± 1.21 . The median and the interquartile range of the pre and post readings of MMT and perineometer for the control and the experimental group is given below in Table 1.

Table 1

	Manual muscle testing (MMT)		Perineometer	
	Pre intervention {Median (IQR)}	Post intervention {Median (IQR)}	Pre intervention {Median (IQR)}	Post intervention {Median (IQR)}
Control group (n=123)	2 (2,2)	3 (3,3)	10 (8,13)	16 (13,21)
Experimental group (n=123)	2 (2,2)	3 (2,3)	9 (7,12)	19 (14,24)
P value	0.38		0.37	

Interpretation of results

At the end of 12 weeks of intervention, improvement was observed in both the groups clinically and symptomatically. Clinically, a greater improvement was observed on the perineometer readings in the experimental group as compared to that of the control group, but the improvement was not statistically significant. Post intervention, reduction of symptoms was reported by subjects of both the group.

Concluding message

Women with Urinary Incontinence were benefited with Pelvic floor muscle exercise and Tanzberger approach clinically as well as symptomatically.

References

1. Yu Ko, Swu-Jane Lin, J Warren Salmon, Morgan S Bron. The impact of urinary incontinence on quality of life of the elderly. Am J Manag Care 2005;11:S103-S111.
2. Birnbaum H, Leong S and Kabra A. Lifetime medical costs for women cardiovascular disease, diabetes and stress urinary incontinence. Women's Health 2003; 13: 204-213.
3. Beate carrier. The pelvic floor treatment of incontinence and other urinary dysfunctions in men and women. In. Umphred DA (ed). Neurological Rehabilitation. 4th ed, 2001; Mosby Inc St Louis Missouri. pp.913-936

Disclosures

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