

Effectiveness of the strengthening of pelvic floor, hip adductors, gluteus maximus and gluteus medius muscles in the treatment of stress urinary incontinence: blind randomized clinical trial – partial results

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Abstract Text

Hypothesis / aims of study

The strengthening of pelvic floor muscles (PFM) is recommended as first-line treatment for stress urinary incontinence (SUI), with the level A of scientific evidence. However, the relation between function and biomechanics of the hip muscles and the pelvic floor in the treatment of SUI has not been much discussed.

Aims of study

The aim of this study is to assess whether the strengthening of PFM, hip adductor, gluteus maximus and gluteus medius muscles reduces the frequency of urinary losses more effectively than the isolated strengthening of PFM.

Study design, materials and methods

A randomized single-blind clinical trial from June 2012 to February 2014. The frequency of urinary losses was evaluated from the voiding diary.

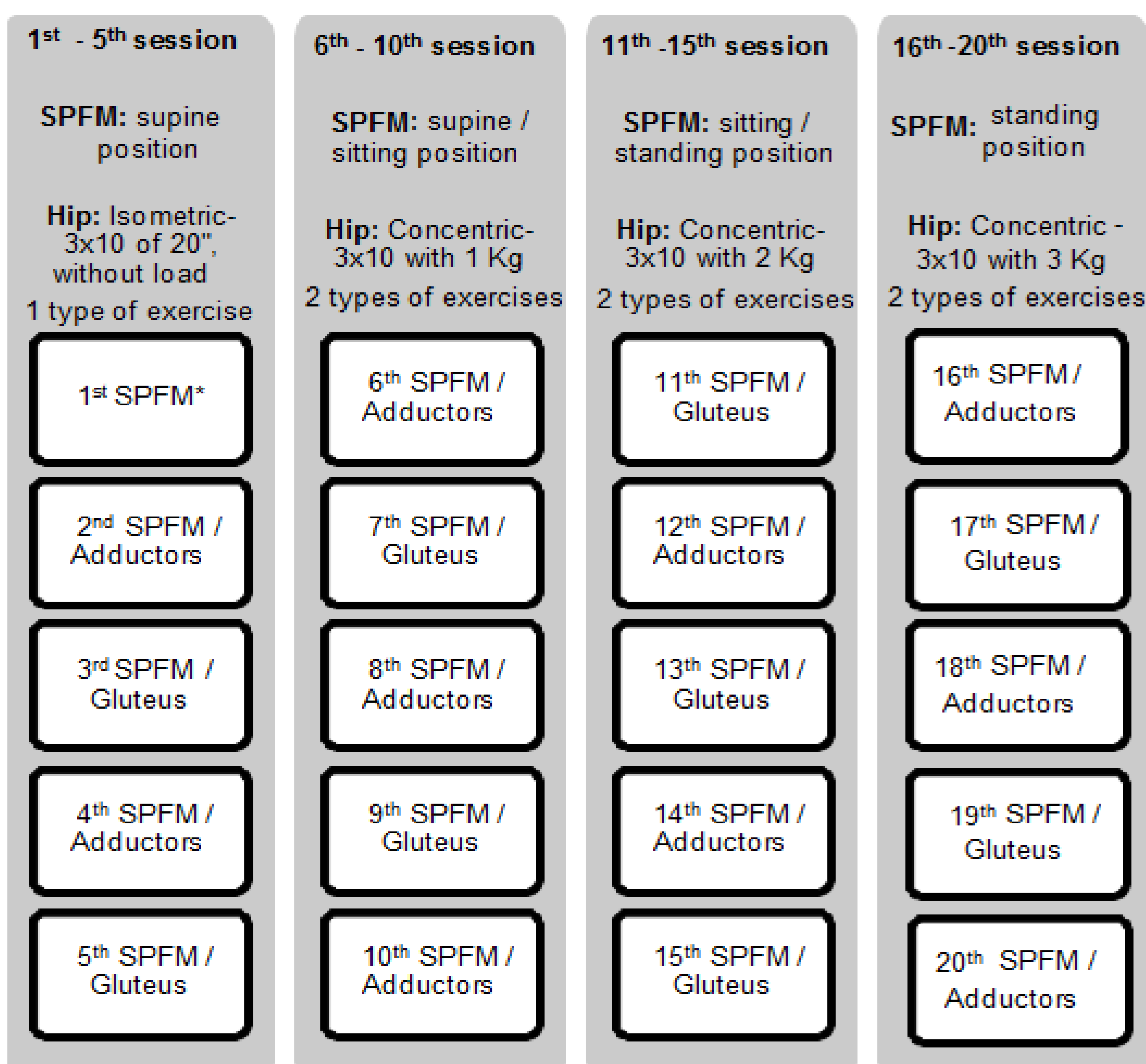
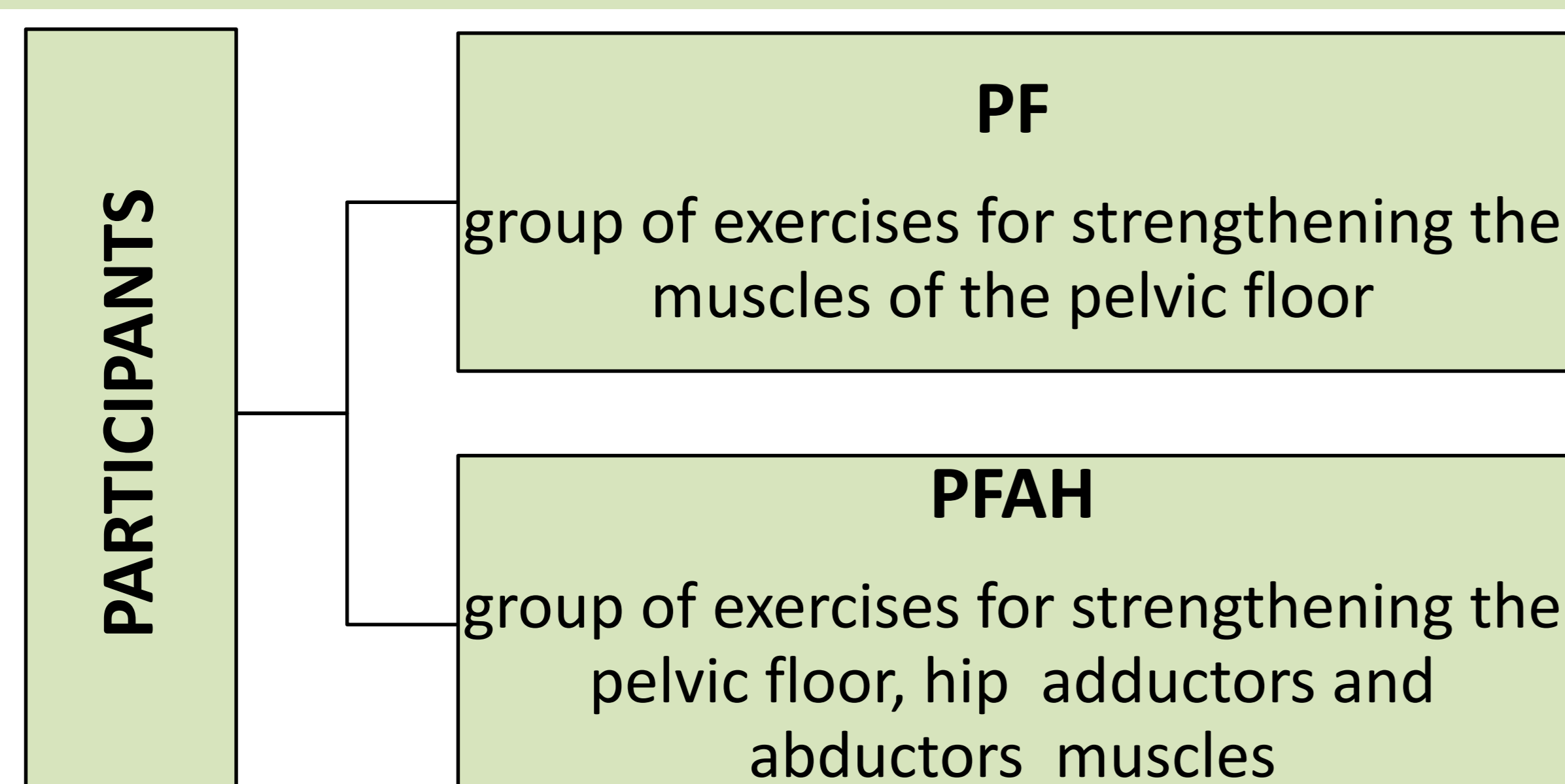


Figure 1 – Schematic representation of the treatment protocol to be used for the PFH group. * SPFM: strengthening the pelvic floor muscles

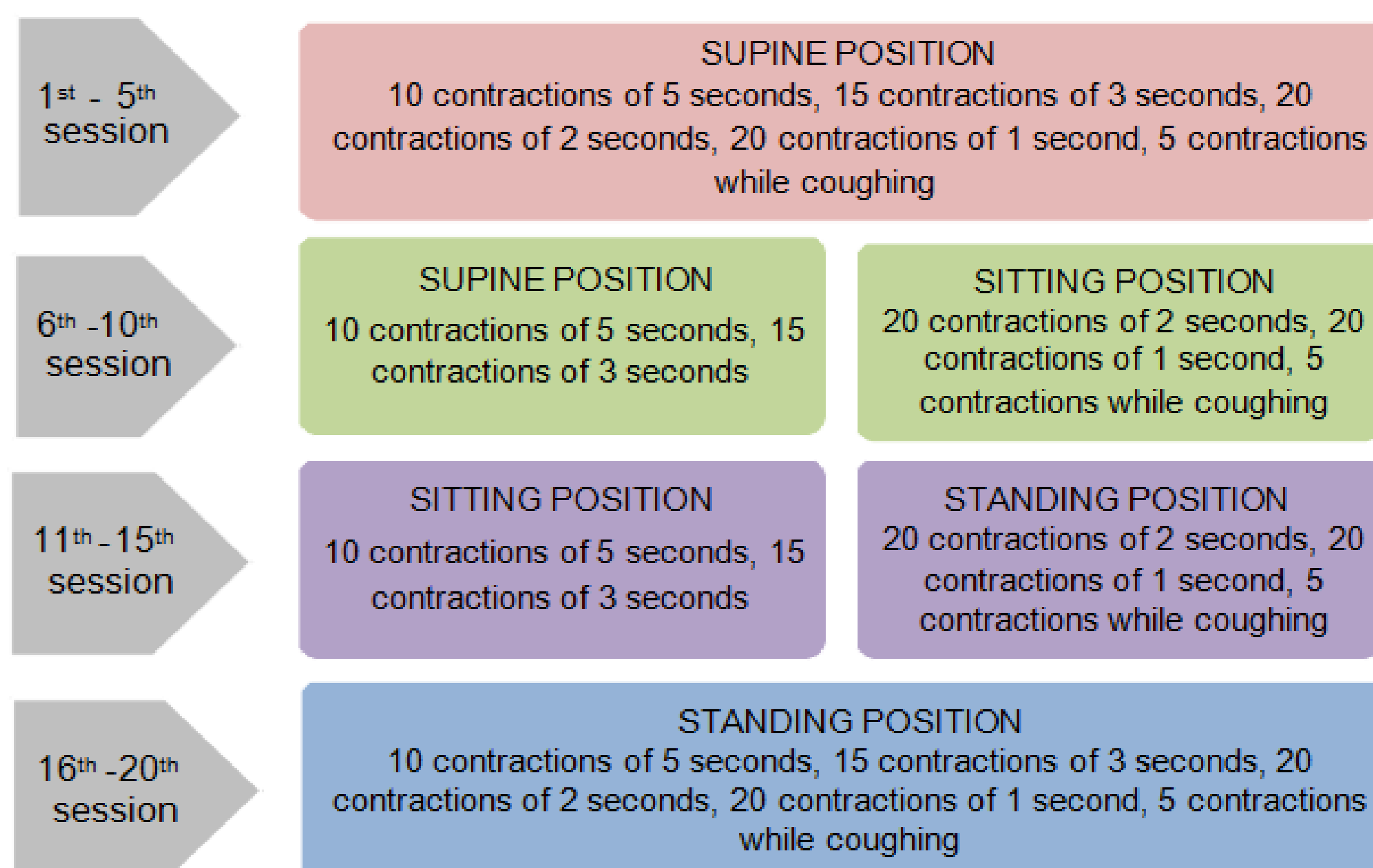


Figure 2 – Flowchart describing the sequence of exercises for strengthening PFM in relation to the change of posture

Results

Table 1 - Sample Characterization. Median of quantitative variables, distribution of qualitative variables and *p* value for groups PF and PFAH.

Variable	Category	Group PF	Group PFAH	<i>p</i> value
Age (years)	Median	52	51.5	*0.883
BMI	Median	27.63	28.75	*0.907
Number of pregnancies	Median	3	2.5	**0.525
Number of vaginal deliveries	Median	2	1	**0.163
Number of cesarean sections	Median	0	1	**0.252
Use of lining	No	6	4	***0.266
	Yes	9	16	
Menopause	No	6	12	***0.407
	Yes	9	8	

Body mass index (BMI). *t test; **Mann Whitney test; *** Chi Square test.

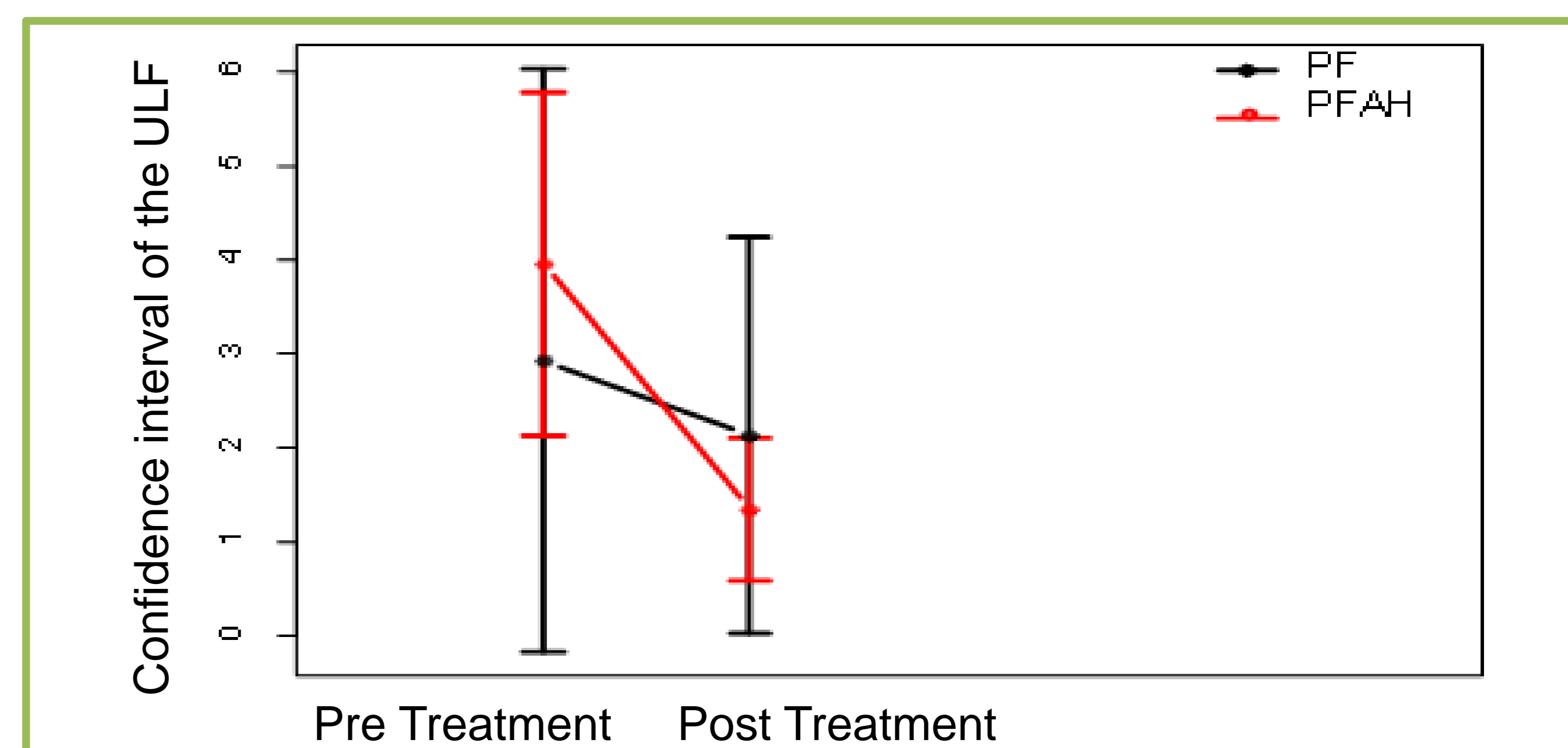


Figure 3 - Average profile and confidence interval of the urinary loss frequency data. (Non-parametric Anova was used in urinary loss frequency data)

Conclusion

The two approaches resulted in significant reductions in the frequency of urinary loss. Partial analysis of the data showed no statistically significant difference between the groups, but there are indications from the analysis that the PFAH group tends to a greater reduction in symptomatology after all the data is finally compiled.

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