

ABL Nagib^{1,2}; C Riccetto²; NM Martinho^{2,3}; CRT Juliato², RM Jales², A Marques², VR Silva^{2,4}, DBV Adam^{2,5}, P Palma²; AP Adriana³, S Botelho^{2,3}

1. University Center of Teaching Associated Colleges (UniFAE) - SP / Brazil.
2. State University of Campinas (Unicamp) - SP / Brazil.
3. Federal University of Alfenas (UNIFAL-MG) - MG / Brazil.
4. University Vale do Sapucaí (UNIVAS) - MG / Brazil.
5. Pontifical Catholic University of Minas Gerais (PUC-MG) - MG / Brazil.

INTRODUCTION AND AIMS

Investigate the effects of the training through an exposure to virtual reality therapy (PFMT_VR) on the symptoms of female UI.

PATIENTS AND METHODS

Study design and participants: A randomized controlled clinical trial with 18 women who carry UI (mean age of $51,72 \pm 8,58$ years old), divided into Experimental Group (n=10) and Control Group (n=8).

Questionnaire Investigation: The investigation of the Urinary symptoms was made by the following questionnaires: International Consultation on Incontinence Questionnaire Urinary Incontinence Short Form (ICIQ UI-SF) and International Consultation on Incontinence Questionnaire Overactive Bladder (ICIQ-OAB).

PFM Assessment: Pelvic floor muscles (PFM) strength was evaluated through digital palpation (Oxford Modified Grading Scale) and all of them were able to contract their PFM.

Randomization and intervention protocols: Control group received PFMT orientations during their daily life activities (PFMT_DLA). Whilst experimental group received PFMT_DLA and participated on the PFMT_VR, supervised by a Physiotherapist, individually, for 30 minutes, twice a week. Both groups were monitored for five consecutive weeks.

Statistics Analysis: Statistical analysis was performed using Kolmogorov-Smirnov, Wilcoxon and T paired's test with a significance level of 5%.

RESULTS

Main outcome: Analyzing pre and post training data, it was observed a significant reduction in the questionnaire scores ICIQ UI-SF ($p= 0,002$) and ICIQ OAB ($p= 0,003$) with simultaneous increase in the PFM strength ($p=0.003$) on the PFMT_VR; and a significant reduction in the questionnaire scores ICIQ UI-SF ($p= 0,014$) and ICIQ OAB ($p= 0,039$) in the control group.

DISCUSSION

Accordingly to the results obtained in this study, it was possible to observe a decrease in the urinary symptoms in both groups; however the increase in the PFM strength significantly occurred only on the PFMT_VR group. Some studies in health women showed that abdominal muscles maximal voluntary contraction (VMC) promoted an increase in the activity of the PFM, helping their support, resistance and coordination with a significant improvement on the PFM pressure when proposed an abdominal muscle training. Based on this premise, we believe the improvement in the muscular perception may have occurred after the completion of the PFMT_VR protocol, corroborating with other studies that state the learning from the training may modify the muscular recruitment, with consequent improvement of the coordination among them. A study using Virtual Reality as a treatment for UI found a significant improvement of PFM contractions. One of the challenges to the preventive practice in this field is referred to the insertion of proposals that emphasize the importance of the conscience of the abdominopelvic muscles, as a manner to prevent the overload on the pelvic floor during daily life activities. PMF pre-contraction performance during daily life activities that involves a increasing of intra-abdominal pressure may have a significant role in the prevention of future dysfunctions, which means an improvement in quality of life with a following reduction in treatment costs.

CONCLUSION

In conclusion, both of the methods, virtual reality training and home orientations, promoted a reduction on urinary symptoms in women with urinary incontinence predominantly the ones with stress urinary incontinence. However only the virtual reality training promoted a consecutive increase in pelvic floor muscles strength.

References:

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