

International Conference on

KINESIOLOGY AND BIOMECHANICS

November 05-06, 2018 Singapore

Comparative analysis of virtual reality versus progressive resistive exercises in improving arm function of patients with hemiplegic in Bacoar, Cavite

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Virtual reality (gaming console) and Progressive Resistive Exercises (PREs) have emerged as recent treatment approaches in stroke rehabilitation. In particular, the game console is used to aid in portraying and calculating body positioning, visual perception, balance and gross motor skills while PREs is a strengthening technique that basically used by the physical therapist in treating impairments particularly muscle weakness. PREs can be administered *via* different forms; the study utilized PNF D1 Flexion, Extension patterns through resistive bands. The principle states that to improve muscle performance and functionality, it should exceed the metabolic capacity of the muscle and challenged to perform at a level greater than to which it is accustomed. Aim of this study is to improve the arm function of patients with hemiplegic by using new dimensional approach. Quasi experimental group pre and posttest design is used in the study. Retrospectively, all the post-stroke patients who are at the age range of 40-70 years old were reviewed with selection criteria and been oriented with informed consent. 15 participants were randomly array into three variable groups; the two groups were distributed to the experimental group that represents the Nintendo Wii and the PREs group. The remaining group represents the control group which undergoes stretching technique and Range of Motion exercises (ROM) in the upper extremity. They were subjected into 15 treatment sessions and assessed two times by using the modified Fugl-Meyer Assessment of Physical Performance for the functional mobility of the affected upper extremity of the post-stroke patients. Assessment was imposed before starting our first the treatment session and after the final session. The modified Fugl-Meyer Assessment of Physical Performance demonstrates that virtual reality has the highest mean scores among all the interventions done with a $M=55.80$, $SD=2.168$ followed by the PREs ($M=48.20$, $SD=6.340$), and lastly the control group which is the lowest post-test mean score ($M=40$, $SD=1.581$). There is a significant difference on the post-test scores of the PREs as compared to virtual gaming console. With the computed significant value of $p=0.035$ suggests to accept the null hypothesis. This shows evidence that gaming console is a far more effective treatment than PREs for post-stroke patients in improving the mobility of the affected upper extremity.

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