INTRODUCTION

**Background:** Dual-task training is indicated to facilitate the ability to optimize attentional resources in maintaining balance control. Recent studies identify Virtual reality (VR) training improves balance and cognitive function compared to conventional balance training among stroke survivors.

**Purpose:** To examine the efficacy of a high intensity tapering dual-task training paradigm to a conventional balance training paradigm on intentional balance control.

**METHODS**

**Study Protocol:**

<table>
<thead>
<tr>
<th>Pre-Training Assessment</th>
<th>Training (week1-6)</th>
<th>Post -Training Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limits of stability test (Intentional Balance)</td>
<td>Control group: Conventional training Group (CG)</td>
<td>Limits of stability test (Intentional Balance)</td>
</tr>
<tr>
<td>Performance based tests</td>
<td>Experimental Group: Cognitive-Motor group(CMT)</td>
<td>Performance based tests</td>
</tr>
<tr>
<td>Physical activity Monitoring</td>
<td>Cognitive-Games: Category Fluency (CF)</td>
<td>Physical activity Monitoring</td>
</tr>
</tbody>
</table>

**Components Of Conventional training:**

- a) Stretching Exercises
- b) Strengthening Exercises
- c) Proprioception Exercises
- d) Treadmill Walking

**Components Of Virtual Reality Training:**

Each balance game was played in conjunction with any three of the cognitive games.

**Demographic Information:**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Age (Mean± SD)</th>
<th>Weight (kg) (Mean± SD)</th>
<th>Height (m) (Mean± SD)</th>
<th>Sex (M/F)</th>
<th>Stroke type (H/L)</th>
<th>Affected (R/L)</th>
<th>BBS (Mean± SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG group n=11</td>
<td>61 ± 18</td>
<td>181.54 ± 43</td>
<td>167.33 ± 22</td>
<td>6/5</td>
<td>7/4</td>
<td>6/5</td>
<td>43.72 ± 7.30</td>
</tr>
<tr>
<td>CMT group n=13</td>
<td>57.53 ± 4.39</td>
<td>173.53 ± 25.72</td>
<td>170.93 ± 10.59</td>
<td>7/6</td>
<td>7/7</td>
<td>7/4</td>
<td>45 ± 2.98</td>
</tr>
</tbody>
</table>

**RESULTS**

**Measures of Intentional Balance:**

- **Table:**
  - **Outcome Measures:**
    - a) **Time up and Go:**
      - CG: 28 ± 2.25
      - CMT: 24 ± 3.15
    - b) **4SST:**
      - CG: 16 ± 3.14
      - CMT: 14 ± 2.58
    - c) **CST:**
      - CG: 15 ± 2.67
      - CMT: 12 ± 2.91
    - d) **SWMM:**
      - CG: 60 ± 1.54
      - CMT: 50 ± 2.23

**CONCLUSION**

The results demonstrate effectiveness of 6 weeks of virtual reality training in a dual-task paradigm that increases the volitional balance control compared to conventional balance training. Additionally, dual-task training helps in improvement of cognitive function which is essential in balance control.

**ACKNOWLEDGMENT**

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