

## Effects of Progressive Resistive Exercise on Isometric Strength of Shoulder Extensor and Abductor Muscles in Adult Hemiplegic

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**Abstract :** Background: Rehabilitation treatments have significant role in reducing the disabilities of Cerebro Vascular Accident (CVA). Due to great role of upper limb in the function of individuals particularly in Activity of Daily Living and the effect of stability of shoulder girdle on hand function, the aim of this study was to study the effects of Progressive Resistive Exercise on shoulder extensor and abductor muscles isometric strengths in adult hemiplegic. Methods: 17 adult hemiplegics patients (50-70 yrs., mean 60/52, SD7/22); with RT side dominance and 6 months after stroke, participated in this study. All procedures were approved by ethical committee of TUMS and written consents were also taken. Patients were familiarized with the procedure and shoulder extensor and abductor muscles isometric strengths were measured by dynamometer. Results: according to result to our study, shoulder extensor and abductor muscles isometric strengths showed Significant differences between mean scores of pre and post intervention ( $P<0/05$ ). Progressive Resistive Exercise improved 34% shoulder extensor muscles isometric strength and 27% shoulder abductor muscle isometric strength. Conclusion: Results of our research showed that progressive resistive exercise approach is a useful method for increasing the isometric strength of shoulder extensor and abductor muscles. Therefore, it might be concluded that improvement of strength of shoulder muscles could result in stability in shoulder girdle and consequently might effect on hand function in hemiplegic patients.

**Keywords :** shoulder extensor muscles isometric strength, shoulder abductor muscles isometric strength, hemiplegic, physical therapy

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