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Association of tenodesis grip strength with functional hand: Recovery in patient with cervical spinal cord injury

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Spinal cord injury (SCI) is a devastating event, the individual becomes a significant burden on their family and society. SCI involves impairments of sensory, motor and autonomic functions. The objective of this study is to find the tenodesis grip and hand strength associated with functional hand recovery according to neurological level of lesion C5-C7 in tetraplegic patients. In upper extremity the hand function can be used and improved by compensatory methods for Activities of Daily Life, with the help of different modalities as Electrical stimulations, Neuroprosthesis, splints, orthotic devices, wrist-driven orthotics, tenodesis grip Emulator and upper limb surgery.

Cross-sectional study will be designed, non-probability purposive sampling technique will be selected in setting Bahawal Victoria Hospital in Bahawalpur and sample of study was 75 patients. With age group 21-55, both male and female will be included, Mini Mental State Examination ≥ 24 , patient will be medically stable. According to ASIA impairment scale grade C, D and E will be included while A and B will not be considered and 0, 1, +1 will be included in this study according to Asworth scoring. The patient will be excluded with contracture of upper extremity or with increasing tone of muscle. Fracture in hand area, history of surgery in upper extremity after tetraplegia and combined peripheral or central nervous system disease. For assessment tools will be used for tenodesis grip strength is assessed by Graded Redefined Assessment of Strength, Sensibility and Prehension (GRASSP) test, and

functional hand recovery will be assessed by Jebsen-Taylor Hand function test (JTHFT_IT), hand dynamometer for grip strength and spinal cord independence measure will be used. Pearson correlation was used to find the association between grip strength and functional activities of hand. The collected data will be analyzed by using SPSS 23.

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Biography

Amna Ali is doing her MS in Neuromuscular physiotherapy from the Riphah International University Lahore. She completed her graduation in 2014-2019 from University of Sargodha from Pakistan. She has her thesis on "Prevalence of Low Back pain in female Nurses in Bahawalpur" and case report on "Effectiveness of trunk training on dynamic balance in chronic stroke" which is under process of publication.

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