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DUANGJAI WATTANAPRAKORNKUL: SCAPULAR AND GLENOHUMERAL ANGLES IN NORMAL THAI FEMALES. THESIS ADVISORS : ROONGTIWA VACHALATHITI, Ph.D. (PHYSIOTHERAPY), ARUNEE VAJIRAPORNTIP, M.Ed. 103P. ISBN 974-663-602-2

This study investigated the scapular angle (SA), glenohumeral angle (GA) and GA:SA ratio of the right shoulder during arm abduction from resting position to maximum abduction at 30-degree increments in the scapular plane. Three groups of normal female subjects were recruited in the study; 20-35, 36-50 and 51-65 years of age. Each group was composed of 30 subjects. The modified scapulo-humeral goniometer was used to measure SA and GA. Each subjects SA and GA was measured in seven positions of arm abductions; 0°, 30°, 60°, 90°, 120°, 150° and maximum abduction. SA, GA and ratio of GA:SA were determined for each age group. The effects of age on SA and GA were also investigated.

In this study, the average contributions of the SA from the resting position to maximum arm abduction ranged from 91.42 to 144.17, 91.83 to 147.3 and 92.25 to 147.13 degrees, while GA ranged from 93.55 to 214.35, 93.93 to 207.7 and 93.72 to 209.2 degrees of the three groups of subjects, 20-35, 36-50 and 51-65 years, respectively. The results showed significant differences in SA and GA for some positions of arm abduction. SA showed significant differences at 150° and maximum arm abduction. At 150° arm abduction, significant difference of SA was found between 20-35 and 36-50 years ($p<0.05$). At maximum arm abduction, SA indicated significant differences between 20-35 and 51-65 years and between 20-35 and 51-65 years ($p<0.05$). GA demonstrated significant differences at 120°, 150° and maximum arm abduction between 20-35 and 36-50 years and between 20-35 and 51-65 years ($p<0.05$). For the ratios of GA:SA, from 0° to maximum arm abduction, the range of GA:SA ratios were 1.17:1 to 5.12:1, 0.75:1 to 4.92:1 and 0.9:1 to 2.9:1 in three groups of subjects, respectively.

In conclusion, from the results of this study, the more the age increased the more the scapular rotated but the motion of glenohumeral joint decreased. For further study, it would be interesting to study the SA, GA and GA:SA ratio in patients with shoulder problems. The comparison of SA, GA and GA:SA ratio between male and female subjects in different age groups would also be interesting to investigate by using the modified goniometer.