Abstract

EMG biofeedback is an instrument in physical therapy treatment that can facilitate the progression of the patient during rehabilitation. Therefore, it is interested to develop the self made EMG biofeedback and test the accuracy and reliability of the instrument. The testing of the measurement of self made electromyography biofeedback (EMG biofeedback) by the signal simulation found that the EMG biofeedback channel 1 and channel 2 has 95.34% and 95.47% of accuracy and ICC = 0.99 in both EMG biofeedback channels. The correlation between 2 channel tested by pearson's correlation was strong correlation (r=0.99, p-value=0.00). The testing of the measurement of self made EMG biofeedback by Rectus Femoris (RF) muscle from 10 males at rest compared to the EMG (biopac) found that the self made EMG biofeedback has 98.70% of accuracy, 1.30 % error. The correlation between the self made EMG biofeedback and EMG (biopac) was strong correlation (r=0.83, p-value=0.03). The testing of the measurement of EMG biofeedback by RF muscle from 10 males at maximal contraction compared to the EMG (biopac) found that the self made EMG biofeedback had 95.48% of accuracy, 4.52 % error. The correlation between EMG biofeedback and EMG (biopac) was strong correlation (r=0.82, p-value=0.04). The result of the testing could be concluded that the self made had high accuracy and reliable that could be used as the instrument in rehabilitation or in research project and for student learning.

KEY WORD: SELF MADE EMG BIOFEEDBACK