Hatairat Sekam 2010: Effects of Tai Chi Exercise with Elastic Chest Wall Restriction upon Pulmonary Function in Elderly. Master of Science (Sports Science), Major Field: Sports Science, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Vullee Bhatharobhas, B.Ed. 155 pages.

These research purposes were to study and compare the effects of Tai Chi exercise with elastic chest wall restriction upon the pulmonary function of the elderly. Thirty subjects were simple random sampling from elderly club of Phranangklao Hospital age 60-80 years old. Subjects were randomly assigned into 3 groups with 10 subjects in each group. The control group performed sedentary. The first experimental group performed Tai Chi exercise with elastic chest wall restriction while the second experimental group performed Tai Chi exercise non elastic chest wall restriction. The first and second experimental groups were trained 3 days per week for 12 weeks. All of the subjects were tested pulmonary function at beginning of the study after the 6 and the 12 weeks to training. Data were analyzed for mean, standard error of mean two-way analysis of variance with repeated measure one-way analysis of variance with repeated measure one way analysis of variance and followed by the multiple comparison test with Tukey's method. Results were considered significantly difference when $p < .05$

The results of this study showed that after the 6 weeks, means of pulmonary function between the control group, the first experimental group and second experimental group had no significantly difference at the level of .05. After the 12 weeks, means of MVV between the control group and the first experimental group were significantly difference at the level of .05. The control group at beginning of the study, after the 6 weeks, and the 12 weeks of training on means of pulmonary function were no significantly difference at the level of .05. The first experimental group at beginning of the study, after the 6 weeks and the 12 weeks of training on means of FEV1, FEV1/FVC, PEF and MVV were significantly difference at the level of .05. The second experimental group at beginning of the study, after the 6 weeks and the 12 weeks of training on means of MVV were significantly difference at the level of .05.

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