CHAPTER I

INTRODUCTION

Low back pain is extremely common problem [1-5]. Lumbar instability has been suggested as a significant factor in patients with recurrent and chronic low back pain[6-9]. Physical therapists have focused on the muscular system as the most approachable and changeable of the contributors to spinal stability and have treated spinal instability with stabilization exercise programs[9].

Spinal stability incorporates of three subsystems, which consist of a passive subsystem, an active subsystem and a neural control subsystem [10, 11]. The functions of three subsystems accomplish the spinal stability. If one subsystem has a problem, it may require compensatory change in the other subsystems [12-14]. If any one or more of the subsystems can not work appropriately, it would affect the overall stability of the spinal system and leads to dysfunction or instability [10, 11].

The exercises that accepted the most effectiveness for increase and improve spinal stability of the spine are lumbar stabilization exercises [11]. Stabilization exercise programs are used to improve spinal stability, by training the muscular control of the lumbar spine. The patient attempts to gross isometric contraction of lumbar muscles while gradually increase loads by various extremity motions [9, 15]. Goal of stabilization exercise is to improve spinal stability [16].

Many previous researches have studied the effect of stabilization exercise programs on the stability of spine in low back pain, herniated nucleus pulposus, spondylolysis or spondylolisthesis and convinced that exercises can reduce recurrent back pain [17], pain intensity [7, 18], and functional disability levels [7, 13, 18].

From the literature concerning stabilization exercises, many studies created stabilization exercise program and use with patients to improve and correct spinal instability[9, 19-21]. Instructing client in lumbar stabilization exercise is an important component of treatment. Although many researchers have conducted several research on lumbar stabilization exercises and there are many programs available, reference levels for young adults have not been clearly established. Reference value of exercise level attain in healthy people can indicate local muscle stabilizer weakness and/or spinal instability. This can occur in normally people in the future. Therefore, the aim

of the present study was to assess reference values of exercise level attained for lumbar stabilization exercises in young healthy subjects.

Purposes of the Study

General Objective

To evaluate the reference values of exercise level attained for lumbar stabilization exercises in young healthy adults.

Specific Objective

To evaluate median value of exercise level attained while performs lumbar stabilization exercise.

Parameter of the Study

Exercise level attained from one to six levels. (Measured by pressure biofeedback unit)

Scope of the Study

This study was investigated the exercise level attained while perform lumbar stabilization exercise. Subjects were healthy male and female, aged from 18 to 25 years.

Hypotheses of the Study

The median value of exercise level attained while performs lumbar stabilization exercise is level three.

Advantages of the Study

1. The median exercise level successfully of this study can be used as reference values of exercise level attained for lumbar stabilization exercises in young healthy adults.

2. This exercise protocol may be used to evaluate the ability to perform lumbar stabilization exercise.

3. Physical therapist should prescribe median value of exercise level attained and higher levels of exercise to non low back pain patients in order to prevent local stabilizer muscle weakness.