

CHAPTER 1

INTRODUCTION

1.1 Rationale

Chronic low back pain (CLBP) is a common health problem in general population and athletes (1). The lifetime prevalence of low back pain has been reported to be 50–80% (2, 3) and incidence of back pain ranges from 15-45% (4). Each national annual costs for this condition were estimated about \$20 - \$50 billion (5). The impacts of CLBP include loss of physical, psychological and social function (6). Common physical dysfunctions found in CLBP are deterioration of general health, decondition, and constant or episodic pain or increase in the level of pain. Physical dysfunctions may lead to psychological symptoms such as insomnia, irritability, anxiety, depression and somatic complaints. Finally, social loss of function may be experienced as a decrease in social and leisure activities, an increase in family stress and loss of community relatedness.

For professional athletes, low back pain is one of the most common reasons for missed playing time. Low back pain in athletes is influenced by sport type, gender, training intensity, training frequency and technique (7). Weightlifter, wrestlers, gymnasts, rowers, golfers, tennis and soccer players are among those commonly reported of low back pain. For weightlifters, the risk of back injury was 13.49% greater than general population (8) and the incidence of back pain in weightlifters was 30-50% (9, 10).

Weightlifting is a noncontact sport in which the participants attempt to lift a maximum weight of a barbell loaded with weight plates. The average compressive loads of greater than 17,000 N was reported at L4-L5 motion segment in 57 competitive weightlifters (11). Moreover, the compressive loads across the L3-L4 were about 10 times body weight when performing half-squat exercise with weight approximately 1.6 times body weight (12). The heavy loads and repetitive nature of training put weightlifters at greater risk of developing back injuries and CLBP.

At Thai national weightlifting camp, the athletes train two hours in the morning and two hours in the afternoon for six days each week. According to survey in March 2007, 39% (15 of 38) of these weightlifters had low back pain (10). These weightlifters also had lower lumbopelvic stability compared to non low back pain group. As mentioned earlier, low back pain affected not only physical but also psychological and social function. These weightlifters with low back pain were unable to work or train as hard as they preferred and this may lead to mental and emotional problems.

To date, various therapeutic approaches of CLBP have been recommended while the efficacy and effectiveness of these treatments are continuously investigated. Management of CLBP can be classified into two broad categories: monotherapy and multidisciplinary therapy. Monotherapy is an intervention of a single kind that is prescribed as sole treatment such as analgesics, antidepressants, physiotherapy and surgery. This strategy is a passive implementation strategy that mainly focuses on pain relieve. At this stage, evidences suggested that monotherapy had limited efficacy

in establishing change in behavior (13). In contrast, multidisciplinary therapy seems to improve function but has less effect on pain (13). Multidisciplinary therapy comprises various combinations of exercises, education and behavioral therapy. Special characteristic of multidisciplinary therapy is that pain relief is not the main objective of treatment. The program focuses on physical disabilities and patients' beliefs about their pain and resulting behavior.

Back school is one kind of multidisciplinary therapy. It is a form of group treatment for patients with low back pain. The aims of back school program are to educate patients on the nature of low back disorders by learning correct body mechanics, practicing therapeutic exercises and helping patients form an active and positive attitude. In 2008, the Cochrane review on back schools for chronic or recurrent non-specific low back concluded that there was moderate evidence suggesting that back schools, in an occupational setting, reduced pain and improved function thus helping workers return to work status, in the short and intermediate-term compared to exercises, manipulation, myofascial therapy, advice, placebo or waiting list controls. Despite the positive effect of back school, the program has never been applied to weightlifter (14).

For Thai national weightlifters, only those with severe low back pain will be referred to doctors and physiotherapy. Some weightlifters with mild to moderate back pain may not seek treatment and may be at risk of developing CLBP. By applying intensive back school program that focusing on the back knowledge, pain management and lumbopelvic stability exercises may help weightlifters manage their

pain, improve back knowledge, lumbopelvic stability, quality of lifting and promote their quality of life.

1.2 Purpose of the study

To evaluate the effects of back school program on pain intensity, back knowledge, lumbopelvic stability, quality of lifting and quality of life in weightlifters with low back pain.

1.3 Research hypothesis

The pain intensity, back knowledge, lumbopelvic stability, quality of lifting and quality of life in weightlifters would be improved at the end of back school program and at one month follow up.

1.4 Advantage of the study

Previous back pain management in weightlifters mainly focused on physical aspect. The result of this study may help to provide a multidimensional back pain management program specific for Thai national weightlifters. The results may also be applied to junior weightlifters and other athletes that use weightlifting as part of their training.