

INTRODUCTION

Osteoarthritis (OA) is the most prevalent joint disorder characterized by articular cartilage degradation with an accompanying peri-articular bone response [1]. OA affects many joints, with diverse clinical patterns, but OA of hip and knee is the major cause of disability [2]. Clinical manifestations of OA of knee are pain in and around the knee that is typically worse with weight-bearing and pain at night. Other manifestations include morning stiffness, stiffness after rest, crepitation on motion, limited joint motion and/or joint deformity [3]. Although there are many treatment modalities, OA is most commonly treated with nonsteroidal anti-inflammatory drugs (NSAIDs) [4]. Nonetheless, since the inflammatory component of OA is usually minimal, the need for anti-inflammatory effect of NSAIDs used in this condition is still controversial [5-7]. Moreover, long-term use of NSAIDs is also directly related to many side effects, including gastrointestinal bleeding, hypertension, congestive heart failure, hyperkalemia, and renal insufficiency [4]. Although some of these disadvantages can be avoided by using paracetamol or selective cyclooxygenase II (COX-II) inhibitors, long-term use of paracetamol possibly leads to chronic hepatic and renal impairment [8-9]. In addition, the relatively high cost of selective COX-II inhibitors seems to be unsuitable for Thailand's present socio-economic status.

The use of Chinese and other foreign patent herbal medicines (pills and tablets) in treatment of arthralgia is highly prevalent and increasing in Thailand, but import of these medicines from the People's Republic of China and other foreign countries is usually rather expensive. However, the cost of similar preparations can be minimized by using imported dried herbs available in Thailand as raw materials in manufacturing process coupled with simple and inexpensive traditional drug manufacturing techniques. Thus, if preclinical and clinical studies suggest that these herbal medicines are as effective as and/or less toxic than conventional treatments, promotion of self-produced recipes in each community will lead to community-directed osteoarthritic treatment in Thailand.

The herbal recipe used in this study was “Duhuo Jisheng Wan (DJW)”, which means pill of Pubescent angelica root and Mulberry mistletoe combination, and was quoted from the book *Bei Ji Qian Jing Yao Fang* compiled by *Sun Simiao* in the *Tang* Dynasty (652 A.D.) [10,11]. Although this recipe is perhaps the best known and most widely used formula for arthralgia and also sold as a patent remedy [12], the clinical study to verify its efficacy (compares with conventional treatment) is lacking. Thus, the objectives of this study were to investigate and evaluate analgesic and anti-inflammatory activities of this herbal recipe in various animal models and to compare its efficacy versus diclofenac (an NSAID) in symptomatic treatment of OA of knee.