



Contents lists available at ScienceDirect

Complementary Therapies in Clinical Practice

journal homepage: www.elsevier.com/locate/ctcp

Rusie Dutton traditional Thai exercise promotes health related physical fitness and quality of life in menopausal women



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ABSTRACT

Keywords:

Rusie Dutton
Menopause
Mind-body exercise
Physical fitness
Quality of life

Objective: To examine the effects of “Rusie Dutton” on health and quality of life in menopausal women. **Method:** Menopausal women (aged 45–59) were recruited and randomly allocated to 2 groups. Rusie Dutton group ($n = 24$) practiced Rusie Dutton conducted by Wat Pho Thai Traditional Massage School for 13 weeks. The control group ($n = 26$) was assigned to a waiting list and received no intervention. BW, BMI, restingHR, BP, flexibility, VO_2 max, and MENQOL including vasomotor, physical, psychosocial and sexual domains were measured at the beginning and the end. A paired-sample t -test and independent sample t -test were used for statistical analysis.

Results: Significant improvement was found in all variables within group ($p < .05$) in Rusie Dutton group, and a significant difference between groups was found ($p < .05$) in all variables except BW and BMI. Therefore, it is concluded that the traditional Thai exercise Rusie Dutton can promote health related physical fitness and QOL in menopausal women.

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1. Introduction

Menopause is a naturally occurring phase of women's lives as they transit from the reproductive to non-reproductive stage resulting from the loss of ovarian follicular activity and consequent decline in estrogen [1–3]. During menopause the majority of women experience menopause symptoms including hot flashes, night sweats [4–10], sleep disturbance, insomnia [4,8,9,11–14], mood swings, nervousness, anxiety, depression [7–9], fatigue and musculoskeletal pain [5,15,16]. In addition, many menopausal women suffer from vaginal dryness and urinary incontinence [9,15,17] that affect the social, psychological and sexual aspects of their lives and impact their quality of life (QOL) [9,17,18]. Moreover, the decreased level of estrogen experienced during menopause result in increased risk of disease such as cardiovascular disease (CVD) [19–22], hypertension [23–25], osteoporosis [26–28] and obesity [20,23–25,29,30]. Many recent reports have shown that the prevalence of obesity is high in menopausal women [31,32], and

obese menopausal women have a greater frequency or severity of hot flashes [33–35] and greater risk of CVD [29,36] than menopausal women of normal weight. In Thailand, there are 6.6 million women between the ages of 45 and 59, that is in menopause (10.6% of the Thai population) [37]. They are at risk of physical and mental health problems and encounter many health consequences due to inappropriate life styles and high stress levels that lead to a decline in QOL. Therefore, life style modification is needed.

A number of studies suggest that mind-body exercises such as Yoga, Tai Chi and Qigong have been associated with a reduction of menopause symptoms [38–40], stress [41,42], anxiety [43–49], depression [43,45,46,49], insomnia [45,47,49–51], back pain [46,47,49,52–57] and improvement in cardiorespiratory performance [47,49] due to their incorporation of slowly movements, controlled breathing and meditation. Rusie Dutton, a traditional exercise from Thailand is another mind-body exercise that incorporates slow and gentle movements to twist or extend the limbs and body part, controlled deep breathing and mindfulness meditation during the movements. As well, Rusie Dutton includes weight bearing and perineum strengthening activities, therefore it may be an effective exercise for menopausal women, promoting both physical and mental health.

Although, Rusie Dutton is well-known to Thai people and has existed for more than 200 years, there is some evidence that it can increase flexibility [58], improve cardiorespiratory function [59],

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decrease stress [59,60] and muscle pain [60], no study of its effectiveness to promote health in menopausal women has been conducted. As a result, this study was undertaken to examine the effects of Rusie Dutton in the promotion of health through physical fitness and quality of life in a group of menopausal women in Thailand.

2. Methods

2.1. Study design

The study used a quasi-experimental randomized control group design with pre and post tests over 13 weeks and took place in a Thai community between June and October 2013.

2.2. Participants

Sixty menopausal women (aged 45–59 years) in a Thai community were recruited and randomly allocated to an experimental group or a control group on a wait list. They were screened via the Physical Activity Readiness Questionnaire (PAR-Q) [61] and the Self Assessment for Menopause Symptom [62] that was developed from the Menopause Rating scale Questionnaire (MRS) that was validity tested and found reliable. The screening assessment reported 54 women met the inclusion criteria that included having mild to moderate menopause symptoms, a BMI of = 18.5–29.9 kg/m², no uncontrolled chronic diseases (diabetes, hypertension, heart disease), no spine or knee joint problems and not undergoing any form of hormone treatment. Prior to participating in the study, 27

participants from each group read and signed an informed consent form that had been approved by the Chulalongkorn University Research Ethics Committee, then both groups completed a baseline assessment to record body composition measured by body weight (BW) and body mass index (BMI), resting HR (rest.HR), blood pressure (BP), flexibility measured using a shoulder girdle flexibility test [63], sit and reach test [63], cardiorespiratory fitness measured with a 6 min walk test (6MWT) [64,65] and Quality of life assessment measured with the Menopause-Specific Quality of Life (MENQOL) questionnaire (Thai version) [66,67]. Exclusion from the study was based on the following criteria: attending the Rusie Dutton class less than the minimum 13 times (80% of 16) and being unwilling to attend the group sessions.

The experimental group was requested to regularly attend a 13 week Rusie Dutton practice of 16 yoga-like postures conducted by the Chetawan Temple (Wat Pho) Thai Traditional Massage School and approved by three sport science experts (IOC = .92), while the control group received no intervention but were offered the chance to take the Rusie Dutton practice for 13 weeks after the post test assessment was completed. Both groups received a Menopausal Health promotion handbook that consisted of a definition of menopause and dietary and exercise guidelines for menopausal women.

2.3. Procedures

Thirteen weekly Rusie Dutton practice sessions were supervised by the researcher, a certified Rusie Dutton trainer from the Wat Pho Thai Traditional Massage School in Bangkok. The practice procedure was the following:



Fig. 1. Generalized weakness or not alert

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