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วารสารไทยเภสัชศาสตร์และวิทยาการสุขภาพ 2561;13(4):157-163.

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Thai Pharmaceutical and Health Science Journal 2018;13(4):157-163.

บทคัดย่อ

วัตถุประสงค์: เพื่อประเมินประสิทธิผลของกิจกรรมแพทย์แผนไทยเพื่อลดความเครียด ในนิสิตการแพทย์แผนไทยระดับปริญญาตรี มหาวิทยาลัยราชภัฏบ้านสมเด็จเจ้าพระยา ปีการศึกษา 2559 **วิธีการศึกษา:** การวิจัยแบบศึกษากลุ่มเดี่ยววัดก่อน-หลังการทดลอง ใช้เครื่องมือ คือ กิจกรรมขจัดความเครียดประกอบด้วย การนวดไทย, การทำสมาธิผ่านศิลปะและฤๅษีตัดตน และแบบสอบถาม มีผู้เข้าร่วมกิจกรรมทั้งหมด 61 คน ใช้ค่าสถิติเชิงพรรณนา และค่าสถิติ t ที่ระดับความเชื่อมั่น 95% ในการวิเคราะห์ข้อมูล **ผลการศึกษา:** ก่อนเข้าร่วมกิจกรรม นิสิตส่วนใหญ่มีระดับความเครียดปานกลางถึงสูง หลังเข้าร่วมกิจกรรม พบว่านิสิตส่วนใหญ่มีระดับความเครียดน้อยลง โดยลดลงอย่างมีนัยสำคัญทางสถิติ (P -value < 0.001) และเมื่อจัดอันดับกิจกรรมที่นักศึกษาเข้าไปจัดการความเครียด พบว่า “การนวดไทย” “ศิลปะสมาธิ” และ “ฤๅษีตัดตน” จัดอยู่ในอันดับ 1, 2 และ 3 ตามลำดับ **สรุป:** รูปแบบกิจกรรมขจัดความเครียดสามารถลดความเครียดในนักศึกษาได้ และเสนอให้พัฒนาแนวคิดและวิธีการจัดกิจกรรมนี้ต่อไปเพื่อขยายผลไปยังหน่วยงานอื่น ๆ

คำสำคัญ: แพทย์แผนไทย, การนวดไทย, ฤๅษีตัดตน, การทำสมาธิผ่านศิลปะ, การจัดการความเครียด

Editorial note

Manuscript received in original form on May 8, 2018;

revised on July 24, 2018;

and accepted in final form on December 31, 2018

Abstract

Objective: To assess efficacy of Thai traditional medicine modalities in reducing stress among undergraduate students in the Thai traditional medicine program, Bansomdejchaopraya Rajabhat University, Thailand academic year of 2016. **Method:** In this one-group pretest-posttest study, 61 participants were trained in Thai massage, Thai art meditation, Ruesi Dudton (Thai hermit's exercises). Data were collected by questionnaire. The mean scores of stress were compared using paired t test, independent t-test, where appropriate. Statistical significance was assumed at a confidence interval of 95%. **Results:** Before training, participants had moderate to high stress. After training, stress score decreased with statistical significance (P -value < 0.001). It was found that “Thai massage,” “Thai art meditation,” and “Ruesi Dudton” were ranked as number 1, 2, and 3, respectively as the most modality used for stress management. **Conclusion:** Thai traditional medicine modalities could reduce students' stress; hence, they should be implemented in other settings.

Key words: Thai traditional medicine, Thai massage, Ruesi Dudton, Thai art meditation, stress management

Journal website: <http://ejournals.swu.ac.th/index.php/pharm/index>

Introduction

Stressors have a major detrimental effect upon individual's mood, sense of well-being, behavior, and health.¹ Individuals are affected by different stressors. Stress has become an important topic both in academic circle and in our society. Stress in university students could be prevalent and traced by adopting different strategies.²

A certain portion of university students often faces different stressful situations and preoccupations. Many studies highlighted mental health issues in young adult, especially during their studying years at university. Previous research found numerous factors that can negatively affect a university student's pursuit of tertiary qualifications such as financial constraints, interpersonal and intrapersonal challenges,

academic under-preparedness and difficulties in balancing academic and personal life.³

Student mental health problems are a growing concern on college campuses.⁴ Mental health and behavioral problems are common among students commencing university. University life can be stressful and problems are often exacerbated during their course of study, while others develop disorders for the first time.⁵ These problems may persist or indeed worsen during their course of study and can have an impact on academic performance.⁶ Environments with natural elements (environmental modifications) are both intuitive and scientific to reduce employee stress. Environments can be protected, created, reconfigured, or regulated to prevent, eliminate, or mitigate stress.⁷

Traditional treatments were used effectively in innumerable diseases since ancient times and continued to survive and flourish, although research in holistic system approaches remained poorly organized.⁸ The Kingdom of Thailand has its own system of traditional medicine called "Thai traditional medicine." Originated during the Sukhothai period (1238 - 1377), it was developed in parallel with the country as a means of national health care until the early 20th century.⁹ The spread of modern medicine from the Western world to the East led to a decline in the practice of traditional medicine in Thailand. As a result, modern medicine eventually replaced TTM and became Thailand's mainstream health-care system.¹⁰

Thai traditional medicine (TTM) is defined by law as the medical processes dealing with the examination, diagnosis, therapy, treatment, or prevention of diseases, or promotion and rehabilitation of the health of humans or animals, midwifery, Thai massage, as well as the preparation, production of Thai traditional medicines and the making of devices and instruments for medical purposes. All of these are based on the knowledge or textbooks that were passed on and developed from generation to generation.¹¹

Thai Traditional medicine is an array of indigenous medical practice which has long been used in Thailand. Since 2012, the government has set up policy and strategies aiming to make the science of Thai traditional medicine acceptable among people. Thai traditional medicine is considered a holistic medicine. The treatment and health promotion emphasizes adjusting the balance of the body elements and various factors, e. g. , Tard Chao Ruan (dominant element of one's body), seasons, and where one lives External elements have also been taken into account in order to give appropriate treatments. Treatments prescribed for patients are based on the four fields of TTM practice, e. g. herbal medicine preparations, traditional Thai massage, post-partum care, mother and child care, as well as some rites and rituals, if necessary.¹²

Traditional Thai massage is an important aspect of the primary healthcare system in Thailand. The foundation of primary healthcare system emphasizes the role of the individual and his responsibility for his health. By utilizing traditional Thai massage as a means of preventive and curative care, the Thai community can inexpensively and actively take responsibility for their own health. Traditional Thai medicine, alone or in conjunction with other treatments,

is an effective treatment for many different ailments. Traditional Thai massage is known by several different names, such as ancient massage, passive yoga, and yoga massage therapy. The latter names are more descriptive and illustrative of an actual Thai traditional massage. Thai traditional massage is a compilation of Hatha Yoga postures and energy work.¹³

The focus of traditional Thai massage is completely different from a western style of massage, like the Swedish massage. In traditional Thai massage, the attention given to the physical body is secondary; therefore, the kneading and intense stroking characteristics of Western massage are noticeably absent. In a traditional Thai massage, the main focus is on the energy creating harmony and balance.¹⁴

Traditional Thai massage incorporates soothing massage techniques by pressing various points along the Sen Lines. The massage stimulates and restores the natural flow of energy throughout the body. By manipulating the energy body, energy blockages are removed resulting in a balance of the essence of life, earth, air, wind, and fire. As these elements of the invisible energy body become balanced, pain, discomfort, illness, and disease are alleviated and eliminated. Traditional Thai massage offers many physical and mental health benefits. It stimulates all organs of the body and balances all systems of the body making it a powerful therapy for physical and emotional problems. During a traditional Thai massage, gentle pressure is applied to the internal organs of the abdomen with the different Yoga postures and the abdomen massage. Studies done on Hatha Yoga positions have shown this stimulation caused the internal organs to begin functioning at their highest capacity. This will lead to an improvement in digestion, nutrient absorption, waste elimination, and the circulation of blood and lymph.^{15,16}

The increased circulation and pressure changes brought about in the pelvic region also promote and preserve the health of the endocrine glands. According to traditional Thai massage, no extra demand for energy and oxygen by the muscles is needed if ailments are alleviated or calmed down. These ailments were, for example, common cold, abdominal pain, digestive disorders, headache, stiff neck, shoulder pain, back pain, fever, urinary tract problems, liver disease, diseases of the gall bladder, hernia, leg and arm paralysis, knee pain, jaundice, arthritis, shock, sinusitis, epilepsy, and cardiorespiratory abnormalities.

With traditional Thai massage, there is no undue stress on the cardiovascular, skeletal, respiratory systems as there is in some western therapies. Because of the restoration of the parasympathetic predominance in the body instead of irritation, ego-inflation, and tension, the patient feels calm, quiet, pleasant, exhilarated, euphoric, and relaxed. This can have long-term effects on the individual patient in stress reduction.¹⁷

Although traditional Thai massage has long-term health effects, the patient may become aware of several immediate reactions after the release of energy. Some of the more common experiences following massage therapy include bouts of depression, sleeplessness, exhaustion, and extreme happiness. It is not uncommon for patients to have more physical ailments as well like diarrhea or nausea. Although some symptoms are uncomfortable, they are actually necessary for balance, equilibrium, and ultimately healing.¹⁸

Recent studies indicated that mind-body exercises such as Yoga, Tai Chi and Qigong have been effective in reducing stress¹⁹, anxiety, depression, insomnia^{20, 21}, and back pain^{22, 23} and increasing flexibility²⁴ due to their incorporation of slowly paced, gentle movements, and controlled breathing and meditation. Thai wisdom exercise “Ruesi Dudton” is another mind-body exercise with a set of slowly and smoothly connected movements of all body parts, paced respiration, diaphragmatic breathing and mindfulness respiration with breathing techniques. Therefore, Ruesi Dudton could be an effective intervention for promoting quality of life and flexibility for working women. Ruesi Dudton was initially developed for exercise by Wat Phra Chetuphon Vimolmangklaram (Wat Pho) and Thai Ministry of Public Health. It is well-known to Thai people for more than 200 years and widely spread in Asia. There are some reports showing that the practice of Ruesi Dudton can decrease stress muscle pain^{25, 26} and menopause symptoms.⁷ The techniques of Ruesi Dudton were promoted but not widely accepted internationally. There was a concern about the effectiveness as well as safety of this local wisdom.

Mindfulness meditation has been taught in a standardized fashion for decades as a mainstay of mindfulness training in community and clinical settings such as through traditional teacher- or retreat-led mindfulness meditation practice, known as mindfulness-based stress reduction (MBSR). There are three standard and commonly used meditation practices namely Concentration, Loving-Kindness, and Choiceless

Awareness. Concentration meditation is intended to help individuals retrain their minds from habitually engaging in self-related preoccupations (such as thinking about the past or future, or reacting to stressful stimuli) to more present moment awareness.²⁸ Loving-Kindness meditation is hypothesized to foster acceptance, both of oneself and others, as well as to increase concentration. This type of meditation is practiced through directed well-wishing, typically by repetition of phrases such as “may (I/ someone else) be happy.” Choiceless Awareness is hypothesized to broaden the scope of mindfulness to all aspects of experience, whether during formal meditation practice or everyday life, via directly attending to whatever arises in one's conscious field of awareness at any moment. That is, meditators practice noticing when they are identifying with an object, and when this occurs, to “let go” and bring their attention back to the present moment.²⁹ Mindfulness training has shown benefit for the treatment of pain, substance-use disorders³⁰, anxiety disorders³¹, and depression, and also helped increase psychological well-being in nonclinical populations.³²

The meditation with art therapy program for women with breast cancer showed changes in brain activity associated with lower stress and anxiety after the eight-week program.³³ The effects of active creation on health-related psychological outcomes with artistic materials: paper and colors for drawing and writing, musical instruments, space for walking meditation or performing. Results suggest that the effect of active creation on both self-efficacy and well-being is significantly mediated by the Experience of Creation Scale.³⁴

With the promising benefits of these modalities of Thai traditional medicine, the purpose of this study was to assess effects the training of Thai traditional medicine on student's stress and ranking Thai traditional medicine workshops that student used for stress management in Bansomdejchaopraya Rajabhat University, Thailand.

Methods

With a one-group pretest – posttest design, this study recruited all 1st, 2nd, 3rd and 4th year students in the Thai traditional medicine program of Bansomdejchaopraya Rajabhat University, Thailand. Population of the study was all 61 male and female students in the Thai traditional medicine program of Bansomdejchaopraya Rajabhat University, Thailand. With a limited number individuals in study

population, all 61 students were expected to be the study sample. Participation was based on voluntary nature and students were allowed to withdraw from the study any time. Participants with incomplete data were excluded.

In terms of study intervention, the one-day workshop was held with the elements as follows. Participants were trained with 15 steps of Ruesi Dudton from the 15 steps Thai Traditional Exercise by the Thai Traditional Medicine Institute, Department of Thai Traditional and Alternative Medicine, Ministry of Public Health, Thailand (2012). Participants were also trained with Thai self-massage from the art of self-massage of 41 postures by the Thai Health Promotion Foundation (2005). Finally, participants engaged in Thai art meditation workshop (meditation combined with Thai art therapy program) by an expert. All students participated in these three activities. They were asked to complete the self-administered questionnaire before and right after the completion of the one-day workshop. Data were collected on April 22nd, 2017.

All data were collected by using a questionnaire consisting of three parts. The first part collected demographic information of the participants. In the second part, the 5-item Srithanya Stress scale (ST-5) of the Thai Department of Mental Health was used to assess stress level of the participants. The five items assess problems of sleep, concentration, anxiety, boredom, and isolation with a 4-point Likert-type rating scale ranging from 0 - never, to 1 - sometimes, 2 - usually, and 3 - always. In this study, internal consistency reliability of the ST-5 was found acceptable with a Cronbach's alpha coefficient of 0.764.

The total score of the ST-5 were calculated and compared to the standard score interpretation criteria specified by the Bureau of Mental Health Development, Department of Mental Health, Ministry of Public Health, Thailand as low, moderate, high and extreme levels of stress (0 – 4, 5 – 7, 8 – 9, and 10 – 15 points, respectively).

In the third part, participants were asked to rank the three Thai traditional medicine modalities, i.e., Thai self-massage, Thai art meditation, and Ruesi Dudton, by the order of influence of each intervention on stress management from 1 - most, to 2 - moderate and 3 - least. The scores of these rating were also calculated as mean.

Data analysis

Data were entered into Microsoft Excel dataset, and analyzed using SPSS, Version 24.0 (IBM Corp. Release 2016. IBM SPSS Statistics for Windows, Version 24.0. Armonk, NY: IBM Corp.). Stress score distribution was tested by Kolmogorov-Smirnov Test (K-S Test) and normal distribution was found both from pre-test and post-test (P -value = 0.978 and 1.119, respectively). Mean ST-5 stress scores of all participants before and after the workshop were compared using paired t-test. Such before- and- after stress score comparisons using paired t-test were also performed in men and women separately. Independent t-test was performed to compare mean stress scores between men and women both before and after the workshop. Differences of mean stress scores before and after the workshop in each of college years (i.e. 1st, 2nd, 3rd, and 4th year students) were also tested using paired t test. Statistical significance was set at P -value < 0.05.

Results

All 61 participants enrolled in the study and their data were all completed and analyzable. The majority of them were female students (52 students or 85.25%). The largest proportion of participants were 1st and 2nd students (24 of 61 students or 39.34%, both classes) followed by 13.11% and 8.20% of 4th and 3rd year students, respectively.

The ST-5 stress score decreased (i.e. improved) from 7.59 points before the workshop to 4.56 points after the workshop with a statistical significance (P -value < 0.001) (Table 1).

The changes of mean stress score both in men and women were significant (Table 1). Mean score of ST-5 among men decreased from 8.22 points (high stress level) before the workshop to 4.67s points (low-to-moderate stress level) after the workshop with a statistical significance (P -value = 0.032). Comparable and significant change was also observed in women with a mean of 7.52 to 4.54 points (P -value < 0.001). Once stress scores between men and women were compared, no significant difference was found. Before workshop, mean stress score in men (8.22 points) was slightly higher than that in women (7.52) (P -value = 0.609). After the workshop, mean stress score in men (4.67 points) was also slightly higher than that in women (4.54) (P -value = 0.893). It was clear that stress levels declined from high to low-to-moderate level both in men and women (Table 1).

Regarding difference in college year, mean stress scores of each of college years were at moderate-to-high level (7.00 – 7.75 points) before the workshop and declined to low-to-moderate level of stress (3.38 – 4.88 points) (Table 1). The decreases of stress score before workshop to those after workshop were all statistically significant except for the 3rd year students (*P*-value = 0.002, < 0.001, 0.050, and 0.003, respectively).

Table 1 Mean ST-5 stress scores before (pre-test) and after (post-test) the Thai traditional medicine workshop (N = 61).

	N	Mean pre-test stress score	<i>P</i> -value K-S Test	<i>P</i> -value between group*	Mean post-test stress score	<i>P</i> -value K-S Test	<i>P</i> -value between group*	<i>P</i> -value within group*
All participants	61	7.59	0.978		4.56	1.119		< 0.001
By gender								
Male	9	8.22	0.530	0.609	4.67	0.380	0.893	0.032
Female	52	7.52	0.120		4.54	0.100		< 0.001
By college year								
1 st	24	7.75	0.623		4.58	0.364		0.002
2 nd	24	7.63	0.626		4.88	0.652		< 0.001
3 rd	5	7.00	0.692		4.80	0.510		0.050
4 th	8	7.38	0.965		3.38	0.664		0.003

* Paired t-test.

Independent t-test.

In addition to ST-5 stress scores, participants also rated the degree each of Thai traditional medicine modalities offered them stress management. It was found that “Thai self-massage” was ranked the most influential modality with the lowest mean score of 1.75 points, followed by “Thai art meditation” (1.84 points), and Ruesi Dudton (2.41 points) (Table 2).

Discrepancy was found once gender and year of study was taken into consideration. Among female students, Thai self-massage, Thai art meditation and Ruesi Dudton were ranked number 1, 2 and 3, respectively. On the other hand, male students ranked Thai art meditation as number 1, while Thai massage” and Ruesi Dudton as number 2 and 3, respectively. Students in their 2nd, 3rd and 4th year ranked Thai self-massage as number 1; while those in 1st year preferred Thai art meditation the most. Ruesi Dudton was ranked number 3 by most classes, except the 3rd year class which rated Ruesi Dudton as number 2. Thai art meditation was ranked number 2 by most classes, except the 3rd year class which rated Thai art meditation as number 1.

Table 2 Mean scores of ranks on Thai traditional medicine modalities (N = 61).

	N	Ruesi Dudton	Thai self-massage	Thai art meditation
All participants	61	2.41	1.75	1.84
By gender				
Male	9	2.78	1.78	1.44
Female	52	2.35	1.75	1.90
By college year				
1 st	24	2.33	1.88	1.79
2 nd	24	2.46	1.75	1.79
3 rd	5	2.00	1.80	2.20
4 th	8	2.75	1.38	1.88

Discussions and Conclusion

This study assessed effectiveness of three modalities of Thai traditional medicine, namely Thai self-massage, Thai art meditation and Ruesi Dudton on stress among students of Bansomdejchaopraya Rajabhat University, Thailand. After the one-day workshop, stress level decreased significantly. Stress scores in men were slightly higher and women but with no statistical significance either before or after the workshop. Our finding was different from few other studies where women were more likely to have a stress level higher than men.³⁵

In our study, stress level was found high both in men and women before the workshop. Such discrepancy regarding gender could be due to a difference in perception, reduced stress resilience, stressor experiences, and reduced coping resources.³⁶ After workshop, stress score decreased significantly both in men and women *P*-value = 0.032 and < 0.001, respectively). This beneficial stress decrease was consistent with another study where stress significantly decreased over the meditative model intervention.³⁷ Physiological studies also support the efficacy of massage and meditation to decrease anxiety³⁸, and depression.³⁸ Moreover, mind-body exercises such as Yoga, Tai Chi and Qgong have also been effective to reduce stress, anxiety, and depression.³⁹

Stress scores of students of all college years before workshop were close (7.00 – 7.75 points). However, we found that 1st year students showed the highest stress score which could be due to the fact that freshmen endorse higher levels of ongoing and chronic stress.⁴⁰ After training, stress score was decreased significantly in each of all classes. This suggested that mindfulness-based interventions in all college

population has demonstrated a wide array of benefits including stress reduction.⁴¹

In terms of influence on stress reduction of each modality in this Thai traditional workshop on the participant's perception, Thai self-massage was ranked as the most influential modality followed by Thai art meditation and Ruesi Dudton, respectively. This could be supported by premise that exercise was an effective stress coping strategy, while other coping methods such as internet usage, meditation, and self-isolation, could sometimes inadvertently be associated with higher stress.⁴² Our finding was also consistent with stress-targeted interventions for college students where the cognitive/behavioral/mindfulness-based programs consistently showed a positive impact on students' psychosocial wellbeing.⁴³

This study was with some limitations. With a one-day workshop of Thai traditional medicine, substantial benefit of the modalities could not be established. In addition, the duration of follow-up measurement was relatively short, i.e., same-day follow-up right after the one-day workshop. Only immediate, not intermediate or long-term effect if Thai traditional medicine could be tested. This study was also inevitably subject to a certain level of bias since no comparison group and randomization were incorporated. Since workshop was composed of three modalities of Thai traditional medicine applied simultaneously in a single workshop, benefit of each modality could not be determined. Lastly, since our study was done in a relatively small sample, confidence in statistical analysis could be of limited.

With limitations mentioned above, future research on the benefits of Thai traditional medicine should be conducted in a larger sample, more workshop sessions, longer follow-up period. Comparisons group with separate modalities assigned should be of great concern. Randomization should be considered to reduce bias. Furthermore, a broader population of university students, and general populations should also be tested.

In conclusion, the one-day Thai traditional medicine workshop employing Thai self-massage, Thai art meditation and Ruesi Dudton offered a stress reduction benefit in university students. This kind of workshop could be modified to apply to help university students reduce stress.

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