The Effectiveness of Herbal Inhaler Products, Suan Sunandha Palace Recipe

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ABSTRACT
This research purpose for Study the effectiveness of the herbal inhalant product, Wang Suan Sunandha recipe. This is quasi-experimental research with a single group pretest-posttest design. The experimental group is Suan Sunandha Rajabhat University students aged 18-25 years. Be healthy and have no chronic diseases. Consented to be research volunteers, totaling 50 people (25 males, 25 females). The research instrument is 1 questionnaire, divided into 4 parts, consisting of questionnaires and personal information of the sample group. Vital signs recording form Emotion and Feeling Assessment and Satisfaction Questionnaire An experiment was conducted where a sample of 50 people had their vital signs measured. and record the emotions before and after inhaling the herbal inhaler aroma Suan Sunandha Palace recipe, about 10 minutes. and after the end of the sample group, they self-assessed their satisfaction. The data was analyzed using descriptive statistics, finding frequency, percentage, mean, and standard deviation. and the use of paired t-test statistics. The results of the research found that after inhaling the scent of herbal inhalers, Suan Sunandha Palace Recipe It was found that vital signs (blood pressure and heart rate). The emotions and feelings of the sample group were different from before inhaling the herbal inhalant scent. Suan Sunandha Palace Recipe Statistically significant at the.05 level. But the breathing rate before and after inhaling the herbal inhaler odor Suan Sunandha Palace Recipe was no different, and the average satisfaction score of the sample was at the highest level.

1. Introduction

Historically, herbs have been used for medicinal purposes. Especially in developing countries To help strengthen the health care system Subsequently, the medicinal properties of medicinal herbs were examined. Herbs began to be developed as medicines for the treatment of the people. Instead of relying on imported drugs that are expensive and have side effects, Many countries are paying more attention to reliance on herbs (Sam, 2019). Many countries are researching and developing herbs. and traditional medicine containing herbs It has been found that more than 50% of clinically tested medicines used in the world are derived from approximately 200 traditional medicinal plants. that have been developed into modern medicine. But there are still more than 10,000 medicinal herbs that have not been investigated. It means that there are still many herbs that have potential. and are waiting for scientific exploration. to help confirm the safety and effectiveness of medicinal herbs (Bareetseng, 2022). It is estimated that the global herbal dietary supplement market size will be worth approximately US$94.3 billion in 2032, up from US$48.3 billion in 2020. Year 2022. It grows at a rate of 7.10% during the forecast period from 2023 to 2032. Especially the COVID-19 outbreak has increased consumer interest in alternative treatment methods. and more from nature. This results in demand for herbal dietary supplements. These dietary supplements are designed to provide consumers with additional health benefits, such as improved digestion. strengthen the immune system and reduce inflammation (Fortune Business Insight, 2023) Increased health awareness It drives the demand for herbal products. and the demand for natural treatment methods is increasing as well. The herbal products industry faces regulation. As a result, there is a risk that the product will be of low quality, including some consumers still brand or herbal products in the issue of product quality and standards (Ekor, 2014).

Thailand has a wide variety of medicinal plants. In the past, herbs from local wisdom were used. Later, the government sector gave more importance to medicinal plants. There is a national master plan. Concerning the development of Thai herbs, Issue 1, 2017–2021. and prepare the National Herbal Action Plan, No. 2, 2023–2027, to support driving the development and promotion of herbs throughout the value chain. To be able to use it effectively accepted and create added value to herbs by developing them, conserving them, and expanding them Promote the use of herbs and herbal products to create additional economic value. Systematic development By relying on the mechanism of collaboration between relevant agencies. and promote strength to the

community so that the community can be self-reliant (National Herbal Policy Committee, 2023) Thailand has the potential for herbs. But most of the exports are in the form of raw materials that have low prices and added value. Because the production of medicinal plants lacks market clarity. The production of medicinal plants is mainly in the form of mixed household crops rather than produce trading systems. At the same time, there are limitations regarding quality that are not up to standard. Including the lack of research to be scientific evidence to support the benefits of herbs (Medicinal Plants and Spices Promotion Group, 2015). This is reflected in the current registration data for Thai herbal products, which is still small. In addition, the determination of customs tariffs Regarding the issue of alcohol used in the extraction process of herbal essences, taxation is quite high, thus affecting the cost of producing herbal products (Somkid Chaiphet, Alongklod Tan-omthong, and Saowanee Chaiphet, 2020). The COVID-19 outbreak caused research and found that many Thai herbs help prevent or treat COVID-19, such as Andrographis paniculata, white galangal, etc. The Department of Thai Traditional and Alternative Medicine has focused on developing 3 main groups of herbs. Including a group of herbs that have empirical evidence of having anti-COVID-19 properties. and/or relieve related symptoms, including Andrographis paniculata, White galangal, and Thai traditional medicine that helps relieve COVID-19 symptoms. and herbs that are dietary supplements Immunity and also promotes medicinal plants that have the potential to become new champion products. (Department of Thai Traditional and Alternative Medicine, 2021)

Herbal product development In accordance with the National Herbal Action Plan No. 2, 2023-22027, and the Science Plan. National research and innovation 2023-2027 Set Strategy 1: Development of the Thai Economy With the value-creating economy and the creative economy To have the ability to compete and be self-sufficient in sustainability. Ready for the future using science Research and innovation and strategy number 2. Raising society and the environment to have sustainable development, being able to solve challenges and adapt to the changing dynamics of the world using science. Research and innovation (Office of the Science Promotion Commission Research and Innovation (NRCT), 2022) Various organizations, especially educational institutions, organize teaching and learning that links herbal knowledge into the curriculum.

Nowadays, the general public likes to use herbs. and use more Thai traditional medicine services. From the medical service use database Thai Traditional Medicine of the Department of Medical Services Thai traditional and alternative medicine 2017 Found to be outpatient Thai traditional medicine services were received in hospitals at all levels more than 32 million times, and the use of herbal medicines increased from 1,700 million baht in 2016 to more than 2,000 million baht in 2017. (Corporate Communications Group, Academic and Planning Division Department of Thai Traditional Medicine and Alternative Medicine, 2018) and Chanida Matthavangkun, Kwanruen Kawitu, Suthida Deenu, and Sirinat Sinwannakul (2019) The study found that the behavior of using herbs in health care There is a positive relationship with personal factors such as age, income, and congenital disease factors.

Suan Sunandha Palace or Suan Sunandha Royal Park In Dusit Palace, it is the royal residence of the inner court. During the reign of King Rama VI, it was the residence of many inner court lords. In addition to the palaces, buildings, and structures, there were also various types of plants. At His Majesty King Chulalongkorn (Rama 5), there is a royal wish. There are more than 100 types of flowers and trees, both rare and imported foreign plants, to be planted, with plants grown in Suan Sunandha Garden. There are many types of annual and perennial plants, and part of it is medicinal plants, which have medicinal properties. In addition, Suan Sunandha Palace is also the location of Suan Sunandha Rajabhat University, which conducts teaching and learning in science, social sciences, and humanities. Suan Sunandha Palace is therefore a source of collection of all knowledge. Both in many fields of science and art. Including herbs and Thai traditional medicine. There are also herbal medicine recipes, formulas, and various methods that have become the Wang Suan Sunandha recipe (Saengsit Kritsadee, Supalak Fakkham, Sanjai Saengwichian, and Winai Sayowan, 2022).

The College of Allied Health Sciences Suan Sunandha Rajabhat University Samut Songkhram Campus There is a teaching program in the field of applied Thai traditional medicine. Having knowledge and giving importance to the development of Thai herbs To create controlled benefits from herbs and affect the reputation of the university Therefore, the royal recipe herbal inhalant product has been developed. Suan Sunandha Palace Recipe To raise the level of Thai herbal products to compete on a global level. Create income and careers for the community. To make Thai herbs a driving force for the economy in line with the BCG Economy, or bioeconomy, circular economy and green economy (Bio-Circular-Green Economy) is a model It is an economic model for sustainable development. It is a concept of bringing science. Technology and innovation to enhance sustainable competitiveness in the 4 target industries (S-curves), including the agricultural and food industries. Energy and materials industry Health and medical industry and the tourism and service industries.

Herbal product development research team Royal Textbook Herbal Inhaler Suan Sunandha Palace recipe To preserve and expand local wisdom Preserve and maintain the science of traditional Thai medicine, which is the wisdom of the nation. Studying the effectiveness of herbal inhalation products Suan Sunandha Palace Recipe To give consumers confidence in the quality, standards, and safety of the products. leads to trust and use of herbal products Royal Textbook Herbal Inhaler Wang Suan Sunandha recipe, research also brings empirical knowledge. To support executives and those involved in the development of herbal products at Suan Sunandha Rajabhat University To promote, support, and assist agencies. and personnel who have developed prototype herbal products and greater commercial use Including the importation of petty patent registration to Suan Sunandha Rajabhat University.

2. Objectives

1. To study the effectiveness of the product Royal Textbook Herbal Inhaler Suan Sunandha Palace recipe that affects vital signs, emotions, and feelings.

2. To study the satisfaction of the sample group with inhaling the product. Royal Textbook Herbal Inhaler Suan Sunandha Palace Recipe.

3. Methodology

Educational format

This study This is a quasi-experimental research study. (Quasi-Experimental Research) One group pretest-posttest design.

Population and sample

The research population is students of the College of Allied Health Sciences. Suan Sunandha Rajabhat University Samut Songkhram Campus, ages 18–25, 68 people

The sample group is The population that meets the specified criteria is Thai students. Able to communicate well in Thai No congenital disease is healthy. There were 50 people who agreed to participate in the research. The criteria for selecting volunteers to participate in the study were as follows:

Criteria for selecting research participants (Inclusion criteria)

Recruiting and selecting volunteers is based on safety, fairness, and equality by specifying the criteria and qualifications of volunteers as follows:

1. Male and female volunteers were assigned equally, that is, groups of 25 people were similar in age, weight, and height.

2. Volunteers were assessed for their health. From the health information questionnaire, a person who is healthy, has no chronic diseases, has blood pressure at a normal level, that is, systolic pressure less than 140 mmHg, diastolic pressure less than 90 mmHg, a heart rate of 60-100 beats per minute, and a respiratory rate of 16-20 beats per minute.

3. All 50 volunteers received documents. Have time to study documents. Received clarification and explained until understood. Consent to participate in research and sign the consent document in person.

4. Do not smoke or have quit smoking for at least 1 year because smoking affects your sense of smell.

5. No history of allergy to medicines or plastic products, perfume, or essential oils.

6. Female volunteers were not menstruating on the day they participated in the study. This is because menstruating people have a decreased sense of smell. (Navarrete-Palacios, Hudson, Reyes-Guerrero, & Guevara-Guzman, 2003)

Criteria for selecting samples from research (Exclusion Criteria)

It is a criterion established to select people who meet the volunteer selection criteria from the project as follows:

1. The sample group voluntarily withdrew from the research.

2. Results of the health assessment on the day of the experiment Volunteers did not get enough rest, were tired, felt sleepy, or were sick before starting the research. or female volunteers having menstruation or pregnant.

3. Volunteers consumed food and drinks containing caffeine, such as tea, coffee, energy drinks, etc., and alcohol on the day they participated in the study. This is because food and beverages containing caffeine, threophyllin, have an effect on the autonomic nervous system (Godzilla, Pietsch, Witt & Hummel, 2010).

4. Volunteers had adverse reactions that were considered dangerous by doctors.

5. Volunteers were unable to meet several project requirements.

Equipment and tools used in experiments

Because this research is quasi-experimental. The research team therefore has prepared equipment, a location, and a team of medical assistants as follows:

1. Arrange for 1 doctor who is a project consultant to take part in caring for the sample groups before, during, and after the experiment ends.

2. Prepare chemicals, namely herbal inhalers, Wang Suan Sunandha recipe, oxygen tanks, masks, and blood pressure monitors.

3. Prepare a separate room, clean, divided into clear areas, quiet, with adequate lighting, room temperature 25 degrees Celsius, humidity in the room 40-60%. Have volunteers sit back in a chair and remain in a comfortable position for 10 minutes.

Tools used to collect data

The tool used to collect data is 1 questionnaire, divided into 4 parts: 1) a sample personal data questionnaire, 4 questions, multiple-choice type; 2) a 4-item vital signs recording form, recording data in each question; 3) an evaluation form. 4 emotions and feelings The nature of the questions is open-ended to allow the sample to express their opinions, and 4) the satisfaction questionnaire, 5 questions, the nature of estimating the values at 5 levels.

Data collection

The research team proceeded with data collection with the sample groups according to the following steps:

The volunteers were asked to sit back in a chair and remain in a comfortable position for 10 minutes in a prepared room.

1. The research team introduces itself. Clarifying the objectives of the study Study steps and study period, methods of measurement and evaluation, protection of sample rights. Provide documents to explain to volunteers and give volunteers time to read and understand. When signing the document, the volunteer agrees to participate in the research.

2. Have volunteers complete a personal and health questionnaire and assessment form. emotions and feelings 10 minutes before smelling.

3. Install vital signs measuring equipment on the sample group, and vital signs include blood pressure. heart rate and breathing rate first. Record vital sign values in the vital sign recording form.

4. Smell the herbal inhaler product. Wang Suan Sunandha recipe with sample group Through an oxygen mask (O2 mask), oxygen pressure was used at 2 liters/minute for the sample to inhale for 10 minutes.

5. Measure blood pressure at the 5th minute, and at the 10th minute, measure heart rate. and breathing rate every 1 minute for a period of 10 minutes

6. At the 10th minute after the experiment ended, the sample was asked to rate their emotions. and satisfaction in participating in research

7. Verify the obtained information for accuracy. completely before using the data for further statistical analysis.

Data analysis

1. Descriptive statistics: to describe the personal information of the 50 sample groups, consisting of finding frequency values (f), percentage values (%), and average values. ($\bar{X}$) Standard deviation

2. Reference statistics or inferential statistics (Inferential Statistics) to test hypotheses. By finding the value (t-test), single group measurement before-aafter (paired samples t-test) consists of

2.1 Compare vital signs results, namely blood pressure and heart rate. and breathing rate of the sample group before and after inhaling the odor of the herbal inhalant product. Suan Sunandha Palace Recipe.

2.2 Compare the results of the average emotional scores. of the sample group first and after inhaling the scent of herbal inhalant products, Suan Sunandha Palace Recipe.

4. Results

Presentation of research results as follows:

Part 1 Personal information of the sample group

It was found that the majority of the sample were 18-20 years old, 35 people, accounting for 70 percent, and 21-25 years old, 15 people, accounting for 30 percent. Most of them were in their second year of education, 19 people, accounting for 38 percent. Next were 3rd year students, 17 people, accounting for 34 percent; 1st year students, 8 people, accounting for 16 percent; and 4th year students, 6 people, accounting for 12 percent; no congenital diseases, people accounting for 100 percent; and no abnormal symptoms, accounting for 100 percent, according to Table 1.

Table 1 Number and percentage of the sample classified by personal factors (n=50)

Personal information	Number (people)	Percent (100)
Age		
18-20 years	35	70
21-25 years	15	30
Year level		
Year 1	8	16
Year 2	19	38
Year 3	17	34
Year 4	6	12
Congenital disease		
No congenital disease	50	100
Have a congenital disease	-	-
Abnormal symptoms		
There are no abnormal symptoms.	50	100
Have abnormal symptoms	-	-

Part 2 Vital signs comparison results.

Vital signs comparison results (Blood pressure heart rate and breathing rate) before and after inhaling the herbal inhalant product. Wang Suan Sunandha recipe is as follows:

2.1 Blood pressure found

2.1.1 The mean systolic pressure before inhaling the herbal inhaler was 115.89 ± 11.58 mmHg. After inhaling the herbal inhaler odor, the average value was 119.87±8.69 mmHg, a value that was significantly different at the 0.05 level.

2.1.2 Diastolic blood pressure (diastolic pressure) Before inhaling the herbal inhaler odor, the average value was 74.45±8.86 mmHg. After inhaling the herbal inhaler odor, the average value was 74.45±8.86 mmHg. 78.02 ± 5.83 mmHg is a statistically significant difference at the 0.05 level.

Table 2: Results of comparing the mean systolic blood pressure and mean diastolic blood pressure of the sample groups before and after inhaling the herbal inhalant product. Wang Suan Sunandha recipe (n = 50)

Blood Pressure	$\bar{X}$	S.D.	t	sig
Systolic pressure Before inhaling the scent of herbal inhaler	115.89	11.58	-3.355	.042
Systolic pressure After inhaling the smell of herbal inhaler	119.87	8.69		
Diastolic pressure Before inhaling the scent of herbal inhaler	74.45	8.86	-3.079	.045
Diastolic pressure After inhaling the smell of herbal inhaler	78.02	5.83		

* p<.05

2.2 Heart rate was found before inhaling the herbal inhalant product. The average value was 78.41±6.34 times/minute and after inhaling the herbal inhalant product. The average value was 83.95±6.65 times/minute with a statistically significant difference at the 0.01 level according to Table 3.

Table 3. Results of comparing mean heart rate values. of the sample before and after inhaling the herbal inhalant product Wang Suan Sunandha recipe (n = 50)

Heart rate	$\bar{X}$	S.D.	t	Sig
Before inhaling the scent of herbal inhaler	78.41	6.34	-6.197	.001
After inhaling the smell of herbal inhaler	83.95	6.15		

** p<.01

2.3 The respiration rate was found before inhaling the herbal inhalant product. has an average value of 18.45±1.85 times/minute, and after inhaling the herbal inhalant product, the average value was 18.60±0.79 times/minute. It was found that the difference was not statistically significant according to Table 4.

Table 4: Results of comparing the mean breathing rates of the samples before and after inhaling the herbal inhalant product. Wang Suan Sunandha recipe (n = 50)

Breathing rate	$\bar{X}$	S.D.	t	Sig
Before inhaling the scent of herbal inhaler	18.45	1.85	-1.029	.052
After inhaling the smell of herbal inhaler	18.60	0.79		

Chapter 3 Emotions and feelings

The research team used a 4-item mood and feeling assessment with open-ended questions for the group to write an opinion about emotions and your own feelings before and after inhalation. Smell of royal herbal inhaler Suan Sunandha Palace Recipe It was found that most of the sample group had the same opinion that after inhaling the royal textbook herbal inhaler, one feels refreshed. Energetic, bright, relaxed, partly excited. When inhaling the scent of the royal herbal inhaler Tamrab Wang Suan Sunandha for a while, I felt the mind calm and still. Have more concentration. Feelings of stress, discomfort, and irritability are reduced.

Chapter 4 Satisfaction

A sample group of 50 people assessed their satisfaction with inhaling the scent of Royal Textbook herbal inhalers. Suan Sunandha Palace Recipe at the highest level ($\bar{X}$ = 4.56, S.D. = 0.51) When considering each item, it was found that clarifying the purpose of the experiment had the highest average score. ($\bar{X}$ = 4.67, S.D. = 0.49) Second is the duration of the experimental activity. ($\bar{X}$ = 4.62, S.D. = 0.48) Continuity of activities ($\bar{X}$ = 4.60, S.D. = 0.51) Environment, equipment and tools ($\bar{X}$ = 4.47, S.D. = 0.52) and team relationships with volunteers ($\bar{X}$ = 4.45, S.D. = 0.53) respectively according to Table 5

Table 5: Average score values, standard deviation, and level of satisfaction with inhaling the scent of royal herbal inhalers Suan Sunandha Palace Recipe of the sample Classified by item (n = 50)

Message		$\bar{X}$	S.D.	Interpret results	Number
1.	Detailed clarification of the purpose of the experiment.	4.67	0.49	The most	1
2.	ระยะเวลาของกิจกรรมการทดลอง	4.62	0.48	The most	2
3.	ความต่อเนื่องของกิจกรรม	4.60	0.51	The most	3
4.	สัมพันธภาพของทีมกับอาสาสมัคร	4.44	0.53	A lot	5
5.	สภาพแวดล้อม อุปกรณ์ และเครื่องมือ	4.47	0.52	A lot	4
รวม		4.56	0.51	The most	

5. Discussion

Studying the effectiveness of herbal inhalation products Suan Sunandha Palace Recipe through inhalation of odor The sample group was 50 students. Research results It was found that after inhaling the scent of the royal herbal inhaler, Suan Sunandha Palace Recipe Vital signs of the sample Contains blood pressure And the heart rate had a higher average score than before inhaling the scent of the royal herbal inhalant. Wang Suan Sunandha recipe has statistical significance at the 0.05 and 0.01 levels, respectively. But the breathing rate after inhaling

the scent of the royal herbal inhaler It was not significantly different from before inhaling the scent of the royal textbook herbal inhaler. It can be explained that the formula for the royal herbal inhalant Suan Sunandha Palace's recipe comes from an ancient recipe. In the past, it was produced for use within the palace. It has a specific formula. The formula has been improved and developed to suit. The important basis is that Thai herbs are important ingredients. Inhaling and smelling helps create freshness from the scent of essential oils. and the herbs used are consistent with Jutharat Piriyabenjawat (2019). It is stated that herbal inhalers are classified as home herbal medicines with a simple production process. It is useful in relieving symptoms of dizziness, motion sickness, dizziness, dizziness, colds, nasal congestion, fatigue, and also helps to refresh the inhaler, consistent with Thanyalak Utathong and colleagues (2022). Study the effectiveness of inhaling essential oils of local herbs in affecting memory. and mood in students, it was found that the memory of the experimental group that was inhaled with spinach essential oil first and after the experiment was significantly different at the 0.05 level. and 2) emotional state The group that inhaled spinach essential oil felt more alert and excited. feel relaxed Interested in what you're doing See yourself as capable, feel happy, be friendly with others, be interested in different things, and want to join more social groups and groups. Catublas' study (2016) It was found that women living in rural areas of the Philippines are popular to use herbal products. more than women living in urban areas From an attitude about the safety of herbs.

6. Suggestion

Herbal inhalant products Wang Suan Sunandha recipe has medicinal properties. or the taste of medicine that affects The functions of the autonomic nervous system include blood pressure and heart rate. stimulate the mood The feeling of the inhaler is fresh and cheerful, helping the user to be happy. It is an important benefit of herbal inhalation products. Palace Suan Sunandha recipes that need to be preserved Quality has been developed, and standards have been created to be more acceptable. The research results will be part of the quality assurance of herbal inhalation products. The Suan Sunandha Palace recipe will be information that can be patented in the future.

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