



**INFLUENCES ON CUSTOMERS' DECISION OF USING
THAI HERBAL MEDICINE IN BANGKOK AREA**

BY

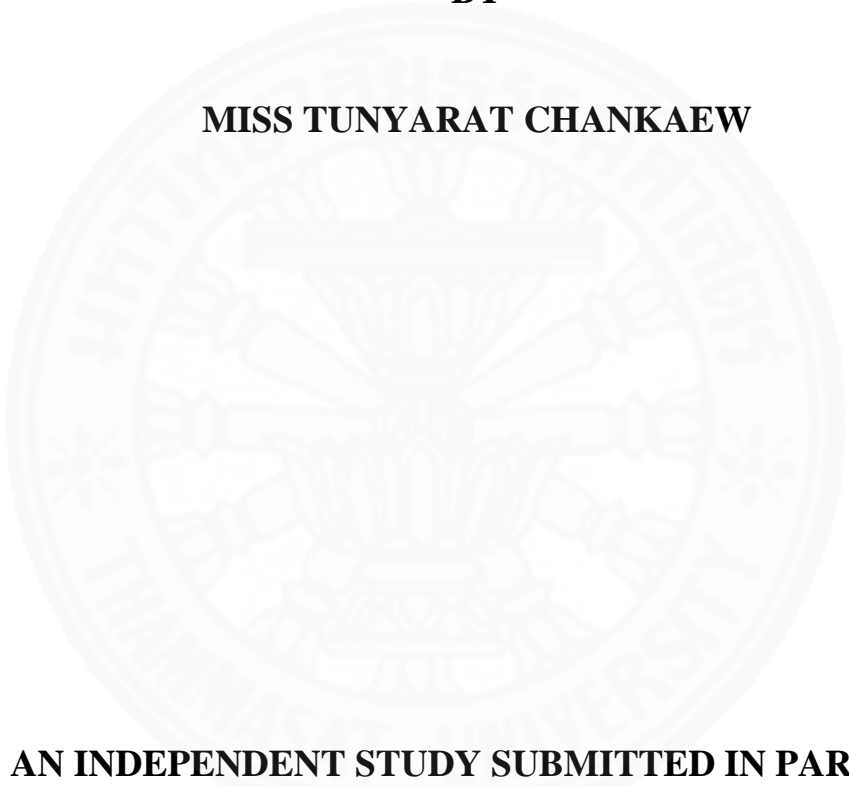
MISS TUNYARAT CHANKAEW

**AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE PROGRAM IN MARKETING
(INTERNATIONAL PROGRAM)
FACULTY OF COMMERCE AND ACCOUNTANCY
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2016
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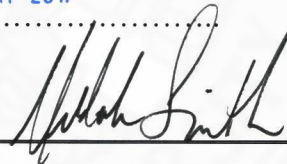
ENTITLED

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MEDICINE IN BANGKOK AREA

was approved as partial fulfillment of the requirements for
the degree of Master of Science Program in Marketing (International Program)

on..... 8 MAY 2017

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Independent Study Title	INFLUENCES ON CUSTOMERS' DECISION OF USING THAI HERBAL MEDICINE IN BANGKOK AREA
Author	Miss Tunyarat Chankaew
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Major Field/Faculty/University	Faculty of Commerce and Accountancy Thammasat University
Independent Study Advisor	Professor Kenneth E. Miller, Ph.D.
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ABSTRACT

This research aims to understand consumers' adoption and usage of Thai herbal medicine, to determine consumers' perception and attitudes towards Thai herbal medicine and to identify factors that can influence the decision-making process when using herbal medicines. Applications of the results of the study will lead to the development of more effective marketing strategies to meet the needs of the target customers.

The research utilized both exploratory and descriptive methods. The exploratory research consists of secondary research and in-depth interviews from both users and non-users. The data obtained from exploratory research were used to develop a questionnaire in descriptive research phase. The descriptive research aims to gain statistical evidence to generalize the findings regarding consumers' attitudes, perception and factors that influence the use of Thai herbal medicine.

Majority of the 250 respondents responded in descriptive research are female, aged between 20-30 years old, income ranging from THB 24,001- 85,000. They hold at least Bachelor's degree, live with their parents with no underlying health issues and routinely take some health products. The respondents were divided into three groups by types of Thai herbal medicine usage: 113 current users, 103 ex-users and 34 non-users.

It is found that different types of users are associated with different perceptions, attitudes and influences towards using Thai herbal medicine.

Keywords: Thai Herbal Medicine, Herbs, Herbal, Behavior, Usage, Perception, Attitude, Influence

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CHAPTER 1

INTRODUCTION

1.1 Problem Statement and Research Purpose

The trend towards natural health has become increasingly popular as consumers become more health conscious and look for natural products. Therefore, the popularity of herbal/traditional products are on the rise as these products are perceived as natural and less toxic to people's health. The herbal/traditional products industry is valued THB 39.2 billion and grew by 13% in 2016. This value is expected to increase at a CAGR of 8, to THB 56.9 billion by 2021 (Euromonitor, 2016).

According to the Public Health Minister, Clinical Professor Piyasakol Sakolsatayadorn, the Government has introduced several policies. A focus has been given on the research and development of herbal plants so that Thai herbs could be applied with greater efficiency. Apart from adding economic value to Thai herbs, another key objective is to make herbal medicine in health services widely recognized (Thailand PRD, 2016).

Both market growth and governmental support through policies are factors that demonstrate various opportunities for the Thai herbal medicine. In addition, the benefits of Thai herbal medicine are its various uses; as some can be used for treatment purposes and others as supplements. In Thailand, most of the herbal medicines available in the market are single-herbal medicines. In other words, these products contain only crude or extract substance from only one herb. In contrast, multi-herbal medicines, which contain crude or extract substance from more than one type of herbs combined for synergist benefit and for modulate adverse effect of

a particular herb, are far less commercialized. However, both types of herbal medicines are listed on the National List of Essential Medicines.

Based on the survey conducted by the National Statistical Office on 5,800 respondents during 4 to 22 November 2013, 41.6% of those surveyed had never heard of or taken Thai herbal medicine, while only 21.9% had heard of or had taken Thai herbal medicine. Nonetheless, 70% of the respondents either agree or strongly agree to the use of Thai herbal medicine to treat minor illnesses or early stage of illnesses because of believe in inherited knowledge. (National Statistical Office, 2014).

The decision-making process can be effected by many variables including consumers' characteristics (such as their age, gender and education), consumers' perceptions and attitudes towards Thai herbal medicine, types of herbal medicine (such as single-herbal or multi-herbal-medicines and its dosage) and also recommendations (such as word-of-mouth and practitioner's advices).

This study aim to explore consumer behavior toward the use of Thai herbal medicine and provide insights about consumers' decisions, which will benefit the Thai herbal industry by providing a better understanding on consumer perceptions. Application of the results of the study will lead to the development of more effective marketing strategies to meet the needs of the target customers.

1.2 Research Objectives

This study is a contemporary topic in applied marketing, which relates to health issues. The study focuses on consumers' decisions of using Thai herbal medicine which can be used as both a supplement and a treatment.

The objectives of the study are listed as follows: -

1. To understand consumers' adoption and usage of Thai herbal medicine.
2. To determine consumers' perception and attitudes towards Thai herbal medicine.
3. To identify factors that can influence the decision-making process when using herbal medicines.

By understanding the factors that can influence customers' decisions in using Thai herbal medicine, better insights can be provided on "What is the determining factor that convinces consumers to use Thai herbal medicine?" This will provide benefits to the Thai herbal industry so that they can compete against modern medicine, modern supplements and Chinese medicine.

CHAPTER 2

REVIEW OF LITERATURE

People are switching from over-the-counter modern medicine to over-the-counter herbal medicine for both internal and external uses to treat minor illnesses. This is reflected in the sales value of the Thai herbal medicine industry at THB 39.2 billion and the sale growth of 13% in 2016. This trend is expected to increase at a CAGR of 8, to THB 56.9 billion by 2021 (Euromonitor, 2016).

The major uses of Thai herbal medicines can be classified into two main categories; curing illnesses and promoting health conditions. Chinese herbal medicines, such as Ginkgo biloba, Ginseng and Goji berries, have long been popular among Thai consumers as dietary supplements. (Euromonitor, 2016). The majority of Thai herbal medicine produced in Thailand are single-herbal medicine. The most commonly used Thai herbal medicines are Turmeric (which helps to relieve flatulence), *Andrographis paniculata* (which helps to relieve symptom of cold and cough) and *Cassumunar ginger* (an ingredient in balms, oils or ointments that helps to relieve muscle pain). On the other hand, multi-herbal medicine is far less common, in terms of both types and volume produced. (Nijpanit, S. et al., 2014). Nonetheless, multi-herbal /traditional dietary supplements saw a growth rate of 83.84% during 2011-2016, while single-herbal/traditional dietary supplements saw a growth rate of 42.51% over the same period (Euromonitor, 2016).

Herbal consumer health products continue to grow with modernized packaging and more access of herbal product. Although herbal products retaining the benefits of all natural and less toxic to consumers' health, many companies focus on an improved format to be suitable more for modern consumption. Moreover, increasing access in various distribution channels such as supermarkets, convenience stores, generate huge recognition among consumers. (Euromonitor, 2016).

Moreover, the government has also introduced several policies that has helped to facilitate the growth of the industry. A focus has been given on the research and development of herbal plants, which would enhance the quality of the herbal medicine. The government has also organized trade fairs to promote Thai herbal products to the general public, thereby increasing the awareness and confidence in the use of Thai herbal products, not only in Thailand but also to the world market, especially in ASEAN. The organization of trade fairs have also created additional distribution channels. (Thailand PRD, 2016).

Apart from adding economic value to Thai herbs, another key objective is to make herbal medicine in health services widely recognized. The government has given a boost to traditional and herbal medicine by integrating herbal medicine into primary health care by including it into the national drug list. The ministry of public health's policy has encouraged all hospitals to integrate Thai traditional medicine into their system. The policy was extended from the policy of the government that recognized the importance of herbal product towards Thai health and Thai economy. (Jehso K. et al., 2015)

Although Thai herbal medicine listed on the National List of Essential Medicines are expected to widely use around country, the surveillance in year 2012 found that the average proportion of herbal medicine used in government hospitals was only 2.88%, which is considerably lower than criteria set by the Ministry of Public Health of 5-10% (Nijpanit, S. et al., 2014).

The growth of alternative medicine, especially traditional medicine, is considered a factor that is making Thai herbs a popular choice for the treatment of certain ailments. Apart from medicine, indigenous herbs can be developed into such products as herbal tea, cosmetics, and food supplements. (Thailand PRD, 2016).

Even though herbal/traditional dietary supplements are growing at a faster pace than non-herbal/traditional dietary supplements, the Thai population is generally interested in adopting non-herbal types of dietary supplements due to the attractive benefits. Moreover, Thai consumers are generally familiar with non-herbal/traditional dietary supplements and they tend to be confident when self-medicating and purchasing these products from various retail channels. (Euromonitor, 2016).

Based on the household survey conducted on self-medication using Thai herbal/traditional medicine during 4 to 22 November 2013, 41.6% of 5,800 respondents had never heard of or taken Thai herbal medicine, while 36.5% had heard of but never taken Thai herbal medicine and 21.9% had heard of and had taken Thai herbal medicine. In relation to the public behavior on curing illnesses, 65.2% of the respondents have chosen to visit a doctor at clinics or hospitals, 59.7% have chosen to self-medicate using modern medicine, 18.8% have chosen not to do anything, 18.8% have chosen to self-medicate using Thai herbal/traditional medicine and only 4.3% have chosen to visit a Thai traditional doctor/practitioner. Nonetheless, 70% of

the respondents either agree or strongly agree to the use of Thai herbal medicine to treat minor illnesses or early stage of illnesses because of believe in inherited knowledge. (National Statistical Office, 2014).

In the context of self-medication involving herbal supplements, the most convenient sources of information are “friends and relatives” (45% and 40%, respectively), while few respondents (10% to 20%) had actually seek professional advice from conventional health practitioners (i.e. pharmacists and physicians). However, physicians and pharmacists are perceived as having the highest value of information sources. Professional recommendation was also rated as the most important attribute of herbal supplement labeling. (Bouldin A.S. et al., 2000)

According to raising trend of healthy product, Thai herbal medicine is one of interesting categories. Even though there are many supportive factors to promote Thai herbal medicine and Thais have good awareness of its benefit, it is no avail. So, this study is conduct to gain knowledge about consumer behavior towards using Thai herbal medicine, both for supplements and treatments. In order to leverage the usage, value and expand the Thai herbal medicine market.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

This research used both exploratory and descriptive research methods to collect data.

3.1.1 Exploratory Research

The exploratory research was conducted to obtain information on the Thai herbal industry as well as to gain insights from the current users and non-users about their consumer decision making process in the adoption and usage of Thai herbal medicine. The responses obtained from exploratory research were used to develop the questionnaire used in the descriptive research phase. Secondary data and in-depth interviews were conducted during this stage. The details are outlined below: -

3.1.1.1 Secondary Data

This research explored the background, growth potential, market penetration, obstructions and successes of the Thai herbal medicine industry. Relevant information was gathered from credible sources, including academic journals, books, websites, newspapers articles and government statistics.

3.1.1.2 In-depth Interviews

For the in-depth interviews, participants were divided into two groups; users and non-users. The in-depth interviews gained an overview into the insights of users and non-users. The responses obtained were used to develop the questionnaire.

3.1.2 Descriptive Research

The descriptive research carried out in the form of a self-administered questionnaire. The questionnaire was used to gain statistical evidence to generalize the findings regarding consumer attitudes, perception and influencing factors about Thai herbal medicine usage. Each questionnaire take less than 15 minutes to complete.

3.2 Sampling Procedure

Due to time constraints, convenience sample was used in both exploratory and descriptive research. For in-depth interview, respondents were recruited through personal contact. The interview was conducted in January 2017 and each interview lasted approximately one hour. The respondents were divided into two groups: Current users and Non-users.

Current users are five respondents who had taken Thai herbal medicine in oral dosage form within the last three months, both for supplement and treatment purposes. The five respondents are Thai nationality, both genders, any socioeconomic status, aged between 20-50 years old, live in Bangkok.

Non-users are five respondents who may or may not have heard of Thai herbal medicine but have never taken Thai herbal medicine in oral dosage form. The respondents are Thai nationality, both genders, any socioeconomic status, age between 20-50 years old and live in Bangkok.

For descriptive research, the online questionnaire was published on social media during March. The respondents were recruited through personal contacts and snowball sampling. All of the 250 questionnaire respondents were Thai nationals of

both genders, any socioeconomic status, age 20-50 years old and live in Bangkok. The respondents were divided into three groups: Current users, Ex-users and Non-users.

Out of all the 250 respondents, there were a total of 113 respondents who use Thai herbal medicine within 6 months, 103 ex-users who used Thai herbal medicine more than 6 months and 34 non-users who never use Thai herbal medicine.

3.3 Data Collection

3.3.1 In-depth Interview

In-depth interviews were conducted through phone calls during January 2017. Five users and five non-users of Thai herbal medicine were obtained by convenience sampling. The current user group consists of five interviewees who currently consume Thai herbal medicine (in last three months) and lives in Bangkok area. Four female, one male interviewees age between 26 – 40 were interviewed. Focus only capsule or tablet form of Thai herbal medicine. The non-user group consists of five interviewees who never consume Thai herbal medicine and lives in Bangkok area. Three female and two male interviewees age between 28-45 were interviewed. Each interview takes approximately one hour. The interviews were recorded by hand for reference.

The list of information obtained is as follows: -

1. Respondent profile: Age, gender, education, occupation, socio-economic status and place of residence
2. Herbal usage: users/non-users, length of use, frequency of use, type of herbal medicine used

Sample questions for users:

- Which type of Thai herbal medicine do you use?
- Do you use single-herbal medicine or multi-herbal medicine? If yes to both, which one is preferred and why?

Sample question for non-users:

- Do you use any Thai herbal medicine?

3. Reason of using/not using: purpose of usage, influencing factors, reasons for the first use and continued use

Sample question for users:

- Why did you start using Thai herbal medicine?

Sample questions for non-users:

- Are there reasons as to why you have never taken Thai herbal medicine?
- Have you tried any type of herbal medicine; Thai, Chinese, Indian or Western. If so, why?

4. Perception towards Thai herbal medicine: beliefs, knowledge and concerns

Sample questions for both users and non-users:

- What are your perceptions on Thai herbal medicine?
- What are your perceptions on Thai herbal medicine relative to other types of medicine?
- Do you have any concern in using Thai herbal medicine?

5. Explore buyer behavior: cultural, social, personal and psychological factors that influence the decision-making process in the use of Thai herbal medicine

Sample questions for both users and non-users:

- Are Thai herbal medicine commonly used in your society?
 - Are there any factors that drive you to choose a particular brand or type of Thai herbal products?
 - Who has an influence on your decision in using Thai herbal products?
6. Go through the buyer decision process: Problem recognition, Information search, Evaluation of alternatives, Purchase decision and Post-purchase behavior

Sample questions for user:

- Please briefly describe the time you purchased Thai herbal medicine.
- When did you purchase the product?
- How did you know which kind of product to purchase?
- Where did you purchase the product from?
- Did you purchase the product for yourself or for someone else?
- What factors do you consider in repurchasing the product?
- Would you purchase another brand of the same type of Thai herbal medicine?

3.3.2 Questionnaire

The data for this study was gathered through an online questionnaire (*See Appendix A: Questionnaire*), so that sufficient responses can be gathered in a short period of time. Google form was used as a platform for obtained 250 respondents which divided into three groups: 113 current users of Thai herbal medicine,

103 ex-users and 34 non-users were obtained using convenience and snowball sampling method. The questionnaire takes less than 15 minutes to complete.

Online questionnaire was distributed during March 2017, through online channel both from personal contact and social media channels of the target population and health/herbal communities, such as Facebook messenger, Line application, Facebook fan pages and herbal related forum/web pages. Wordings will be inserted at the end of the questionnaire to ask respondents to share and encourage others to participate.

The questionnaire consists of four parts as detailed below:

Part 1: Screening Question

Part 2: Behavior towards using Thai Herbal Medicine

Part 3: Perception and attitudes toward Thai Herbal Medicine

Part 4: Profile of respondents

3.4 Data Analysis

The analysis of in-depth interviews was conducted during February 2017. Responses obtained from the in-depth interviews, which are part of the exploratory research, were used to develop a questionnaire for descriptive research.

The analysis of quantitative research was analyzed during April 2017, focused on statistical data from questionnaire results. Statistical Package for the Social Sciences (SPSS) was used to analyze descriptive data such as frequencies, means, differences between groups, associations between variables. The analysis includes Frequency analysis, Chi-square, Cross-Tabulations, One-Way ANOVA and Cluster analysis.

3.5 Theoretical Framework

According to research objectives, the conceptual framework of key variable is shown in *Figure 1*

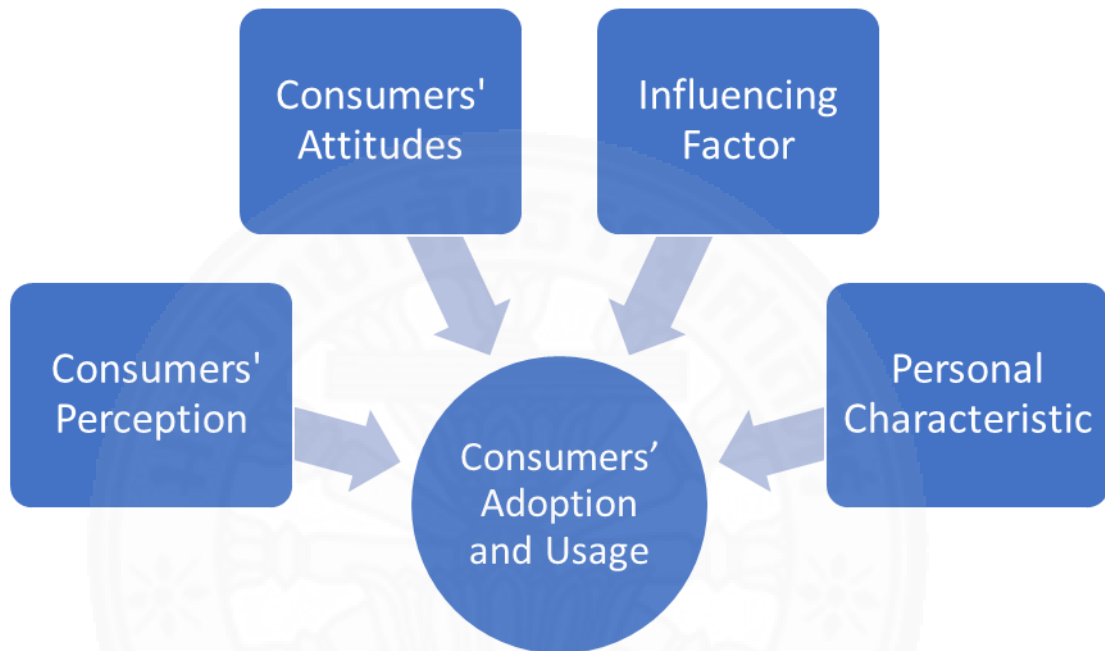


Figure 1 Conceptual Framework of Keys Variable

3.5.1 Dependent Variable

The dependent variables for this study are consumers' adoption and usage of Thai herbal medicine, which include the type of medicine, route of administration, amount of use, frequency of use, purpose of use, co-usage with other medicine, occasion of use, the brand and buying decision.

3.5.2 Independent Variable

The factors that affect consumers' adoption and usage of Thai herbal medicine are listed below:

- Perception towards Thai herbal medicine (e.g. Product Efficacy, Safety, Indication, Reliability, Problem and Selling Channel)
- Attitudes towards Thai herbal medicine (e.g. Interest, Using experience, Other Herbal Medicine Experience and Trustworthiness)
- Influencing factor (e.g. Sources of information, Social influence, Family influences, Reference group, Evidence based, Awareness and Concern)
- Personal Characteristic (e.g. Age, Gender, Income, Education, Type of residence, Underlying disease and Medicine/Supplement Using Behavior)

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Secondary Research Key Finding

Natural therapy is one of the alternatives that people seek for. Thai herbal medicine can be used for both supplement and treatment purposes. The Thai herbal medicine industry was valued at THB 39.2 billion in 2016, representing a growth of 13% from the previous year. This trend is expected to increase at a CAGR of 8 to THB 56.9 billion by 2021 (Euromonitor, 2016). Although, the government has introduced several policies to facilitate the growth of the industry, the surveillance in year 2012 revealed that the average proportion of herbal medicine used in government hospitals was only 2.88%, which is considerably lower than the criteria set by the Ministry of Public Health at 5-10% (Nijpanit, S. et al., 2014).

Moreover, the household survey conducted on self-medication using Thai herbal/traditional medicine from National Statistical Office also showed that 41.6% of 5,800 respondents had never heard of or taken Thai herbal medicine, while 36.5% had heard of but never taken Thai herbal medicine and 21.9% had heard of and had taken Thai herbal medicine. Nonetheless, 70% of the respondents either agree or strongly agree to the use of Thai herbal medicine to treat minor illnesses or early stage of illnesses because of believe in inherited knowledge. (National Statistical Office, 2014). Regarding sources of information, friends and relatives are the most convenient sources but physicians and pharmacists are perceived as having the highest value of information sources. (Bouldin A.S. et al., 2000)

4.2 In-depth Interview Key Finding

In-depth interviews were conducted in January 2017. Convenient sampling, method was employed and ten respondents were recruited to gain insights into the usage, influence, perception and attitude towards Thai herbal medicine.

The respondents consist of five current users who had taken Thai herbal medicine in oral dosage form within the last 3 months and five non-users never taken Thai herbal medicine in oral dosage form. Out of five current users, four were female and one was male. The current users are between 26-50 years old. On the other hand, out of five current non-users, three were female and two were male. The non-users are between 28-45 years old.

4.2.1 User

All of the users used Thai herbal medicine for treatment purposes, and not for supplement purposes. Thai herbal medicine is only used when there are symptoms of illnesses and as an alternative to western medicine. None of the respondents co-used Thai herbal medicine with other types of medicine.

Although some respondents routinely take dietary supplements, they have never used Thai herbal medicine for supplement purposes. However, the respondents are open to the idea and have shown interest to try.

Two of the respondents purchased Thai herbal medicine themselves, while the rest were given Thai herbal medicine by their family. Although the respondents still live with their parents, only some families use Thai herbal medicine and most of those that do, use them as household remedies. Thai herbal medicine was taken mainly to relief symptoms of fever, cough and flatulent, so the popular Thai herbal medicines

include Turmeric and Andrographis. All of Thai herbal medicines taken were in capsule form, as they are the most convenience to consume.

All respondents have had good experiences in using Thai herbal medicine. Therefore, they would continue to use them and recommend them to others. The respondents stated that they started taking Thai herbal medicine due to the suggestions and positive word of mouth from their family members and colleagues.

Those that influenced Thai herbal medicine usage include family members, colleagues, pharmacists, physicians and online search engine. All of the respondents view that Thai herbal medicines are easy to find and can be found in pharmacy stores as well as department stores. Although the respondents are aware of the different brands of Thai herbal medicine, they do not have any preference toward any particular brand. Most of the respondents tend to either select a brand based on the recommendations of the pharmacists, select a brand they are most familiar with or select a brand that manufactures various kinds of products because it signifies that such brand specializes in manufacturing herbal medicine.

Examples of the responses obtained in terms of the perception towards Thai herbal medicine are outlined below:

Purpose of use: “It is an alternative to western medicine for treating mild illnesses”, “It is suitable for self-medication”

Safe: “The natural products are better than the chemical products”, “There should be no side effects because it is natural”, “Herbal medicine is better for long-term use than medicine that contain chemicals”

Efficacy: “Western medicine works faster than herbal medicine”, “It is not potent because it is natural”, “It is ancient wisdom and people have been using it for a long time so it has to be good”

Product: “The products are good but they look old-fashioned”, “The packaging and marketing of the products should be improved”, “They are cheaper than western medicine”

Nonetheless, the users also have some concerns over Thai herbal medicines. Respondents view that there are counterfeit products in the market and some products are being prepared by non-experts or SMEs that do not have appropriate certification from the Thai FDA. Therefore, consumer confidence in the product quality and product efficacy is adversely impacted. The respondents suggested that scientific evidence and clinical proof should be presented to support the efficacy of the products as well as increase credibility and trustworthiness for the consumers. However, some respondents stated that they do not require scientific proof because they trust their influencers more than published scientific articles.

4.2.2 Non-user

There are various reasons as to why some respondents do not use Thai herbal medicine. Only one of the respondents has a family member who uses Thai herbal medicine, while the rest do not. However, that respondent has more trust in western medicine in treating illnesses. The respondents stated that they are not deterred by the use of natural ingredients in herbal medicine. However, they perceive that western medicine is stronger, can provide a faster relief and are more effective in treating illnesses. Although the respondents perceive western medicine as being better than herbal medicine, their perception towards Thai herbal medicine is not a negative one.

They perceive that Thai herbal medicine can be effective, cheap and not old-fashioned. However, some have concerns over the efficacy, quality, sources of ingredients and safety and are more willing to try herbal medicine for external uses, such as balms and inhalers.

Other reasons as listed below

Personal: “I dislike taking all kind of medicine”, “I am a healthy person. I do not need any medicine”, “I prefer to go to the hospital rather than self-medicate when I get sick”

Product: “I do not feel that the products are old-fashioned, they are just unattractive”, “The products look old-fashioned and the packaging should be improved”

Not aware: “Not in my consideration set when needed”, “I am not aware of Thai herbal products”, “My family does not use Thai herbal medicine”

Lack of information: “I do not want to seek for new remedies that I am not familiar with”, “I do not know the medical effects of a particular herb”, “I believe that it is good but I am not interested in using it because I do not know when or how to use it”

Concern: “It is not as potent as western medicine”, “slow effect”, “The efficacy of the products are still unclear to me”, “I have a family member that uses Thai herbal medicine, but I do not believe in the quality and efficacy of the products”

With regards to the influencers, recommendations from physicians or pharmacists are viewed as the most reliable. Some respondents suggested that more awareness on Thai herbal medicine should be created, especially on the quality of the

products. This can be done by publishing clinical trials to support its efficacy, and not only word of mouth from generation to generation.

Furthermore, one of the most important concern from non-users relates to counterfeit products in the market. Some non-users view that some products in the market are mixed with harmful substances like steroids and can have negative consequences to human body.

The responses obtained from the in-depth interviews were then used to develop the questionnaire for the descriptive research. There are some respondents who have consumed Thai herbal medicine over a year ago. For the purpose of this research, respondents who has used Thai herbal medicine before, but not within the last 6 months, are classified as ex-users.

Based on the in-depth interviews, some respondents were unsure whether they have used Thai herbal medicine. At the beginning of the interviews, some stated that they are non-users but during the interviews, some changed their responses and stated that they have used Thai herbal medicine before. Consequently, the definitions of Thai herbal medicine, users, ex-users and non-users were clearly defined at the beginning of the questionnaire to avoid confusion. Pictures of Thai herbal medicine were also placed in the screening question section to provide clarification on what Thai herbal medicine are.

4.3 Descriptive Research Key Finding

There was a total of 282 online questionnaire respondents; however, only 250 respondents were selected as a sample for this study according to the inclusion criteria. All of respondents are Thai, aged between 20-50 years old and live in Bangkok. The results from the questionnaire were analyzed in April 2017.

4.3.1 Respondent Demographic

The information on the demographics of the respondents are shown in *Table 1*. A majority of the respondents is female (70%). Approximately 73% of the respondents are aged between 20-30 years old, while 20% are aged between 31-40 years old and 7% are aged between 41-50 years old. The monthly income of the respondents could be classified into 6 groups, with three of the groups with a monthly income ranging from THB 24,001- 85,000, accounting for 73%.

Most of the respondents hold a Bachelor's degree or a Master's degree, accounting for 51% and 46%, respectively. Moreover, most have health sciences background (46%), followed by commerce (23%), applied sciences (18%), arts (12%) and social sciences (1%). More than half of the respondents live with their parents (54%), while the rest live on their own (22%), with their spouse (12%), with their relatives (10%) and with their friends (2%). Approximately 78% of the respondents have no underlying health issues. Half of the respondents routinely take vitamins, while 33% do not routinely take any health products.

4.3.2 Thai Herbal Medicine Usage

According to the hypothesis of the study is that different type of user have a different characteristic. The respondents were divided into three groups; Current users, Ex-users and Non-users. Current users are people who have used Thai herbal medicine within the last 6 months, Ex-users are people who have used Thai herbal medicine before, but not within the last 6 months and Non-users are people who have never used Thai herbal medicine. Out of 250 questionnaire respondents, 113 were current users (45%), 103 were ex-users (41%) and 34 were non-users (14%).

		n	%
Gender	Male	76	30%
	Female	174	70%
Age	20-30	182	73%
	31-40	50	20%
	41-50	18	7%
Income (Baht/month)	Less than 18,000	16	6%
	18,001-24,000	19	8%
	24,001-35,000	58	23%
	35,001-50,000	64	26%
	50,001 – 85,000	59	24%
	More than 85,000	34	14%
Education	Lower than Bachelor	1	0%
	Bachelor's degree	115	46%
	Master's degree	128	51%
	Higher than Master	6	2%
Background	Health Science	116	46%
	Commerce	57	23%
	Applied Science	45	18%
	Arts	29	12%
	Social Science	3	1%
Residence	With parents	135	54%
	Individual	56	22%
	With couple	29	12%
	With Relatives	24	10%
	With friends	6	2%
Underlying Disease	Yes	55	22%
	No	195	78%
Routine Health Products	Vitamins	125	50%
	Dietary supplement	68	27%
	Personal medicine	36	14%
	Other herbal medicine	10	4%
	Not use	83	33%

Table 1 Summary of Respondent Demographic (n = 250)

		User n = 113	Ex-user n = 103	Non-user n = 34
Gender	Male	25%	37%	29%
	Female	75%	63%	71%
Age	20-30	72%	71%	82%
	31-40	20%	21%	18%
	41-50	9%	8%	0%
Income (Baht)	Less than 18,000	8%	7%	0%
	18,001-24,000	8%	8%	6%
	24,001-35,000	29%	17%	24%
	35,001-50,000	26%	24%	29%
	50,001 – 85,000	17%	28%	32%
	More than 85,000	12%	17%	9%
Education	Lower than Bachelor	1%	0%	0%
	Bachelor's degree	49%	43%	47%
	Master's degree	49%	54%	50%
	Higher than Master	2%	3%	3%
Background	Health Science	43%	48%	56%
	Applied Science	23%	14%	15%
	Arts	11%	13%	12%
	Commerce	23%	25%	15%
	Social Science	1%	1%	3%
Residence	Individual	13%	29%	32%
	With parents	58%	51%	50%
	With couple	12%	14%	6%
	With friends	4%	2%	0%
	With Relatives	13%	5%	12%
Underlying Disease	Yes	20%	28%	12%
	No	81%	72%	88%
Routine Health Products	Vitamins	54%	48%	44%
	Dietary supplement	24%	32%	24%
	Personal medicine	12%	18%	12%
	Other herbal medicine	5%	3%	3%
	Not use	35%	32%	32%

Table 2 Summary of Subgroup Demographic (n = 250)

		User	Ex-user
Type	Oral form	26%	37%
	External use	32%	27%
	Both oral and external	43%	36%
Dosage form	Tablets	40%	32%
	Capsules	73%	73%
	Liquid preparation	26%	21%
	Self-preparation	5%	3%
	Powder	3%	1%
Active ingredient	Single herb	58%	52%
	Compound herbs	42%	48%
Number of type	1	23%	68%
	2-3	69%	29%
	>3	8%	3%
Purpose of using	Relieve fever/cold/cough	63%	52%
	Relieve flatulence/Gut symptom	47%	36%
	Relieve muscle pain	24%	19%
	Treat chronic disease	1%	1%
	Hypnotic, Stress relaxant	9%	3%
	For personal beauty	7%	3%
	Promote Health Conditions	29%	27%
	Prevent disease	21%	16%
Co-using	Yes, with western medicine	40%	35%
	Yes, with other herbal	10%	3%
	No	49%	63%
Occasion	Routinely use	9%	1%
	when sick	71%	44%
	consume at sight	20%	55%
Frequency	Everyday	7%	3%
	Several days a week	29%	7%
	Once a week	4%	3%
	Once a month	7%	3%
	As needed	55%	85%
Using place	Home	81%	89%
	Office	5%	1%
	Car	1%	1%
	Everywhere at needed	13%	8%
Purchase	Myself	66%	62%
	Parents	24%	31%
	Relatives	8%	7%
	Friends	3%	0%

Table 3 Respondents' behavior towards using Thai herbal medicine (n = 216)

The summary of the subgroup's demographic is shown in *Table 2*. Pearson Chi-Square Tests were used to find the association between the usage and demographics. The analysis founded that distribution of variables is the same as total respondent. A majority of the respondents are female aged 20-30 years old, who have a monthly income ranging between 24,001-85,000, hold Bachelor's degrees or higher and have a background in Science. Only the type of residence has a statistically significant association with Thai herbal medicine usage, as illustrated in Chi-Square is 15.529 with a p-value of 0.050. Other variables are not different among the groups. Moreover, more than 70% of each group has no underlying health problems and more than 60% of each group routinely takes health products, such as vitamins and dietary supplements.

The respondents' behavior towards using Thai herbal medicine is reported in *Table 3*. The results show that the types of medicine used vary among current users and ex-users. Up to 43% of the current users use both forms of Thai herbal medicine; those in oral form and for external use, while 32% use Thai herbal medicine for external use only and 26% use Thai herbal medicine in oral form only. On the other hand, the number of ex-users who use Thai herbal medicine in oral form (37%) are almost equal to those who use both forms of Thai herbal medicine (36%). Although more current users tend to use both oral and external forms of Thai herbal medicine when compared to ex-users, the difference is not statistically significant.

With regard to the dosage form, more than 70% of both groups use Thai herbal medicine in capsules form. The next popular dosage form is tablets (i.e., 40% of users and 32% of ex-users), followed by liquid form (i.e., 26% of users and 21% of ex-users). Other forms of medicine such as powder or self-prepared medicine are used

by less than 10% of respondents. However, the types of Thai herbal medicine are not associated with the usage. The amount of active ingredients used in products are also not associated with the behavior of both users and ex-users. Approximately 58% of users and 52% of ex-users use single herbal formulation medicine, while 42% of users and 48% of ex-users use compound herbal formulation medicine.

The number of types of Thai herbal medicine the respondents used is associated with the behavior in using the product, as Chi-Square is 30.575 with a p-value of 0.000. Current users use more types of herbal medicine than ex-user. While 69% of current users use 2-3 types of Thai herbal medicine, only 29% of ex-users do. In contrast, 68% of ex-users use one type of medicine, while only 23% of current users do.

Even though the number of types of Thai herbal medicine is different among users and ex-users, the purpose of using is the same. The leading reason for the use of Thai herbal medicine is to relieve the symptoms of fever, cold and cough (63% of users and 52% of ex-users). This is followed by to relieve flatulence or gastrointestinal symptoms (47% of users and 36% ex-users), to promote health (29% of users and 27% of ex-users), to relieve muscle pain (24% of users and 19% of ex-users) and to prevent illnesses (21% of users, and 16% ex-users). Based on the results, ex-users also tend not to co-use Thai herbal medicine with other medicine when compared to users (63% of ex-users and 49% for users).

As for the occasion and frequency of use of Thai herbal medicine, current users tend to consume Thai herbal medicine when they are unwell (71% of users), while ex-users tend to consume Thai herbal medicine when seeing them (55% of ex-users). The Chi-Square is 22.049 with a p-value of 0.000 illustrates that the occasion

of use is significantly different. Furthermore, about one-third of current users use Thai herbal medicine several days a week. While most of ex-users (85%) use Thai herbal medicine as needed, only 55% of users do. Chi-Square is 18.018 with a p-value of 0.001.

More than 80% of the respondents in each group use Thai herbal medicine at home. Most of the respondents purchased the products themselves (66% of users and 62% of ex-users), followed by their parents being the ones who purchased the products (24% of users and 31% of ex-users). The brands of Thai herbal medicine used are significantly different among the two groups, as illustrated by Chi-Square of 24.722 with a p-value of 0.003. Abhaibhubejhr and Ouayunosod are the top brands consumed by current users at 58% and 42% respectively. Although 56% of ex-users used Abhaibhubejhr, more ex-users than users responded that they do not know which brands they consumed (47% of ex-users and 30% of users).

4.3.3 Perception towards Thai Herbal Medicine

The respondents were also asked to rate their level of agreement through a five-point Likert scales on questions regarding their perception and attitudes toward Thai herbal medicine. In order to test the hypothesis of perception associated with Thai herbal medicine using behavior, one-way ANOVA was conducted to compare the means of perception between the groups of respondents who are current users, ex-users and non-users. The results on perception towards the use of Thai herbal medicine are concluded as *Table 4*.

Perception	Total Mean	Total Std. Dev.	User Mean	Ex-user Mean	Non-user Mean	ANOVA P-Value
Good efficacy	3.65	0.61	3.87	3.55	3.24	0*
Less toxic	3.59	0.96	3.65	3.55	3.47	0.555
For mild illness	3.91	0.8	3.96	3.94	3.68	0.182
For maintain health	3.74	0.81	3.92	3.61	3.53	0.005*
Can take everyday	3.14	1	3.29	3.03	2.97	0.089
For chronic disease	2.57	0.93	2.75	2.48	2.24	0.007*
Easy to find	3.44	0.9	3.58	3.45	2.97	0.002*
For self-medication	3.2	1.05	3.51	3	2.74	0*
For beginning treatment	3.68	0.89	3.9	3.6	3.21	0*
Product variety	3.62	0.85	3.82	3.49	3.32	0.001*
Slowly cure	3.6	0.87	3.73	3.49	3.53	0.096
Obsolescence	2.77	1	2.59	2.87	3.06	0.023*
Low quality	2.72	0.87	2.52	2.83	3.03	0.003*
Difficult to use	2.71	0.88	2.5	2.81	3.12	0*
Need more research	4.21	0.92	4.2	4.17	4.35	0.614
Need more reliable	4.15	0.94	4.14	4.08	4.38	0.26
Many illegal product	4	0.92	4	3.88	4.32	0.052

* Statistically significant at the .05 level.

Table 4 Perception towards Thai herbal medicine (n=250)

The results show that there is a significantly difference between the groups at $p < 0.05$ level on the perception statements about the efficacy, quality, purpose of use (i.e. maintaining health, used for chronic diseases, self-medicating and for beginning treatment), easy to find, product variety, obsolescence and difficult to use.

From post-hoc analysis, it was found that the perception about efficacy is significantly different between every type of users. Current users have the highest mean 3.87, followed by ex-users (mean 3.55) and non-users (mean 3.24). However, the respondents tend to agree that Thai herbal medicine is less toxic (mean 3.59) and takes longer time to cure illnesses, compared to western medicine (mean 3.6).

Current users highly agree that using Thai herbal medicine is good for maintaining good health, curing chronic disease, self-medicating and treating early

stages of illnesses. Post-hoc analysis found that only current users are statistically different from ex-users and non-users. However, in using Thai herbal medicine to treat mild illnesses and for everyday uses, there is no statistical difference among the groups.

Furthermore, current users and ex-users perceive that Thai herbal medicine is easy to find with means of 3.51 and 3.45, respectively. On the other hand, non-users perceive that it is not easy to find, with a mean of 2.97. Like product variety, the mean for current users is statistically different from ex-users and non-users.

With regards to the negative perception on Thai herbal medicine (i.e. obsolescence, low quality and difficult to use), there is a statistical difference between current users (mean of each statement is about 2.5) compared to ex-users and non-users. Current users tend to disagree to negative perception on Thai herbal medicine more than ex-users and non-users.

Different groups have the same perception in relation to the concerns for the Thai herbal medicine (i.e. more research required, more reliability and significant number of illegal products in the market). All of the respondents agree without any significant statistical difference among the groups (mean 4.21, 4.15 and 4 respectively).

4.3.4 Attitudes towards Thai Herbal Medicine

The respondents were asked to rate their level of agreement through a five-point Likert scales on statements relating to their attitudes toward Thai herbal medicine. The result was also analyzed by one-way ANOVA to compare the means between the groups. The results on the attitudes toward using Thai herbal medicine are summarized in *Table 5*.

Attitude	Total Mean	Total Std. Dev.	User Mean	Ex-user Mean	Non-user Mean	ANOVA P-Value
Interested in using	3.64	0.74	3.97	3.49	3	0*
Trust in Thai herbal medicine	3.52	0.71	3.8	3.38	3.03	0*
Good experience	3.56	0.75	3.86	3.45	2.91	0*
Prefer modern package	3.84	0.79	3.96	3.77	3.65	0.07
Prefer western medicine	3.55	0.83	3.42	3.53	4	0.002*
Worth for money	3.45	0.72	3.66	3.3	3.18	0*
Prefer natural	3.82	0.85	3.98	3.72	3.56	0.012*
Believe in folk wisdom	3.52	0.84	3.8	3.41	2.97	0*
Government should support	4.18	0.81	4.28	4.13	3.97	0.101
Trust in certified by FDA	4.06	0.86	4.19	4	3.82	0.062
Should increase promote	4.2	0.74	4.31	4.11	4.09	0.088
Use only good brand reputation	3.8	0.8	3.81	3.79	3.85	0.916
Prefer self-medicate	3.32	1	3.4	3.26	3.24	0.531
Negative impression	2.47	0.8	2.27	2.56	2.82	0*
No different among brand	2.88	0.89	2.73	2.99	3.09	0.031*
Dislike consume any medicine	3.5	1.03	3.29	3.67	3.71	0.012*

* Statistically significant at the .05 level.

Table 5 Attitudes towards Thai herbal medicine (n=250)

The results show that current users, ex-users and non-users are all significantly different in their attitudes, such as their level of interest, trust, good experience in using Thai herbal medicine and belief in folk wisdom. There is a significant difference in the mean for current users (approximately four) versus the mean for non-users (three or less).

Current users also perceive that Thai herbal medicine is value for money, compared to ex-users and non-users. Nonetheless, all of the respondents agree that they trust in products that are certified by Thai FDA, government should support in promote Thai herbal medicine and need more communication to people. (mean 4.06,

4.18 and 4.2, respectively). In addition, the respondents agree that the packaging for Thai herbal medicine should be designed to become more modern.

However, Non-user are preferred western medicine, has less concern about natural and dislike taking any medicine more than current user and ex-user with statistically significant. Although current users disagree on negative impression and brand indifferent more than ex-user and non-user, total mean still be 2.47 and 2.88 which mean all of respondent did not have a negative impression about Thai Herbal Medicine and feel a different among Thai herbal brand.

4.3.5 Influencing Factor towards Thai Herbal Medicine

To identify the factors that influence the decision-making process on the use of Thai herbal medicine. The questionnaire contained multiple choices questions, ranking questions and five-point Likert scales. The sources of information on Thai herbal medicine for the respondents are outlined in *Table 6*.

Source of information	Total n = 250	Total %	User n = 113	Ex-user n = 103	Non-user n = 34
Physician	66	27%	27%	28%	21%
Pharmacist	115	46%	52%	43%	38%
Other health care practitioners	37	15%	14%	19%	6%
Parents	53	21%	20%	28%	9%
Relatives	33	13%	7%	25%	0%
Friends/Colleagues	66	27%	27%	28%	21%
Social media	89	36%	32%	37%	44%
Online search	171	69%	71%	67%	71%

Table 6 Source of information that currently used by respondent (n = 250)

Based on the analysis, it was found that online search is the most used tools for all groups. This is followed by pharmacists, social media, friends and physicians.

However, non-users are less likely to obtain information from their parents and relatives, compared to other groups. Pearson Chi-Square was used to find the difference among the groups. Chi-Square is 35.417 with a p-value of 0.003 illustrates that there is an association between the type of user and sources of information used.

Source of information	Total n = 250	Total %	User n = 113	Ex-user n = 103	Non-user n = 34
Physician	90	36%	35%	32%	50%
Pharmacist	70	28%	29%	26%	29%
Other health care practitioners	5	2%	4%	1%	0%
Parents	22	9%	9%	11%	3%
Relatives	5	2%	1%	3%	3%
Friends/Colleagues	11	4%	5%	2%	9%
Social media	11	4%	5%	6%	0%
Online search	36	14%	12%	19%	6%

Table 7 The most influencing source of information (n = 250)

The respondents were also asked to rank the most influential sources of information when making decision on using Thai herbal medicine and the results are summarized in *Table 7*. Based on the analysis, physician is the most influential source of information for all groups (35% of users, 32% of ex-users and 50% of non-users), followed by pharmacists and online search engine. Moreover, it was found that half of non-users trust physicians more than other users.

In addition, the respondents were asked to rate their level of agreement through a five-point Likert scales on statement relating to the influence on using Thai herbal medicine. The results were also analyzed by one-way ANOVA to differentiate between the groups. The results are summarized in *Table 8*.

Influence	Total Mean	Total Std. Dev.	User Mean	Ex-user Mean	Non-user Mean	ANOVA P-Value
Parents recommend to use	3.27	0.83	3.46	3.2	2.85	0*
Surrounded people are using	3.23	0.8	3.4	3.09	3.09	0.009*
search before use	3.95	0.86	4.04	3.89	3.82	0.28
Use as parents' request	2.55	1.01	2.57	2.55	2.5	0.945
Use only as prescribe	2.82	0.96	2.59	2.8	3.68	0*
Friends recommend to use	2.9	0.85	2.99	2.83	2.82	0.338
Social media induce to try	2.78	0.98	2.81	2.78	2.71	0.85
Use as recommend by pharmacist	3.72	0.82	3.78	3.72	3.56	0.392
Recommend by alternative medicine practitioner	3.36	0.85	3.41	3.39	3.12	0.203
Need more clinical proof	4.05	0.85	3.97	4.1	4.15	0.438
Will recommend to friends/family	3.51	0.82	3.79	3.34	3.12	0*
No one can change	3.07	0.93	3.24	2.93	2.91	0.029*
Read label before using	4.17	0.79	4.2	4.15	4.15	0.85
Tend to increase a usage	3.6	0.83	3.92	3.41	3.12	0*
Continue using	3.53	0.88	3.72	3.4	3.32	0.009*

* Statistically significant at the .05 level.

Table 8 Influences of using Thai herbal medicine (n = 250)

There is a significant difference between user and non-user in term of parents' recommendation to use Thai herbal medicine. Current users tend to be surround by people who use Thai herbal medicine as well. Parents' requests, friends' recommendations and social media appear not to be influential on all groups (total mean 2.55, 2.9 and 2.78, respectively). In contrast, there is a significant statistical difference that non-users will only use Thai herbal medicine if they are prescribed by physicians.

All respondent stated that scientific proof for Thai herbal medicine is required. Moreover, before taking Thai herbal medicine, the respondents would search for the product information first. The respondents appear to accept the recommendations from pharmacists and alternative medicine practitioners.

Current users responded that they will continue to use and even increase the usage of Thai herbal medicine. Moreover, they will also recommend Thai herbal medicine to their family members and friends.

Last but not least, the results on the respondents' concerns on Thai herbal medicine are summarized in *Table 9*. Based on the results, it was found that the top three concerns for all respondents in relation to Thai herbal medicine are its side effect, the efficacy of the products and the quality of the products respectively. However, there are no significant difference, as illustrated by Chi-Square is 16.925 with a p-value of 0.528.

Concern	Total n = 250	Total %	User n = 113	Ex-user n = 103	Non-user n = 34
Don't know how to use	10	4%	3%	5%	3%
Over doses usage	6	2%	3%	1%	6%
Side effect	60	24%	21%	27%	27%
Product quality	43	17%	19%	17%	12%
Efficacy of product	56	23%	22%	23%	27%
Long term effect	25	10%	13%	10%	3%
Counterfeit products	28	11%	15%	7%	12%
Scientific prove	20	8%	5%	11%	12%
Packaging	0	0%	0%	0%	0%
Price	1	0%	0%	1%	0%
Difficult to find/buy	1	0%	1%	0%	0%
Don't know how to use	9	4%	3%	5%	3%

Table 9 Major concern about using Thai herbal medicine (n = 250)

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Majority of the 250 respondents responded in descriptive research are female, aged between 20-30 years old, income ranging from THB 24,001- 85,000. They hold at least Bachelor's degree, live with their parents with no underlying health issues and routinely take some health products.

The respondents were divided into three groups by types of Thai herbal medicine usage: 1) 113 current users who use Thai herbal medicine within 6 months, 2) 103 ex-users who used to use Thai herbal medicine for more than 6 months and 3) 34 non-users who have neither use Thai herbal medicine nor aware of Thai herbal medicine. Subgroup demographic is similar among three types of users despite their residencies.

Respondents' behavior towards the use of Thai herbal medicine showed that by comparing with ex-users, current users tended to use more kind of herbal medicines and consumed more frequently. While both group of users used single herbal capsule at home, mainly for relieve symptom as needed. They did not co-use with other medicine and purchased the product by themselves.

The study about perception towards Thai herbal medicine revealed that different types of user had significant different in perception. Current users had more good perceptions about efficacy, quality, and thought that Thai herbal medicine suited for maintaining health condition, treated early stage diseases or chronic diseases. Besides, current users tended to have no problem in finding Thai herbal medicine, acknowledged variety of products, knew how to use the medicine, and thought that it

is not old-fashioned to take Thai herbal medicine. However, all respondents agreed there should be more research to support reliability of the products. They also aware of illegal products in the market.

The result from respondents' attitude towards Thai herbal medicine also showed the different between each type of users. In order to compare ex-users to non-users, current users were interested and trusted in using Thai herbal medicine. They preferred natural product and had good experience using Thai herbal medicine while non-users had negative impressions about the product. Non-users thought it was not worth the money, they preferred western medicine and did not believe in folk wisdom. However, all respondents trusted in FDA certified product and agreed that Thai herbal medicine would be more well known if it had more promote especially by the Thai government.

All users used online search engine such as google, followed by pharmacist, social media, friends and physician to search for information of Thai herbal medicine. In contrast, the first influencer towards decision making on using Thai herbal medicine was physician, followed by pharmacist and online search engine.

Furthermore, the influencing factors were totally difference among three types of users. Current users were influenced by parents and surrounding people who used Thai herbal medicine more than ex-users and non-users. They would not only continue using the product but they would also increase the usage and would recommend friends and family. In contrast, ex-users and non-users tended to dislike consuming any medicine and non-user tended to use only when prescribed. While parents' request, friends' recommendation and social media were not important to all type of user.

Finally, all respondents had a major concern about side effect, product efficacy and product quality.

5.2 Recommendations

1. Expand Thai herbal medicine market

According to good perception among current users towards Thai herbal medicine in term of long-term use and daily consume, company can penetrate market through current users by increased consumption rate. For example, it can increase consumption rate from as needed to several days a week and to be routinely consume.

Moreover, there also show potential for new product development among current users as they acknowledged variety of product. They have no problem in product finding. In addition, they purchase Thai herbal medicine by themselves. Therefore, company can launch new product to directly attract current customers to consume more kinds of Thai herbal medicine.

For ex-users and non-users, from the result of attitude towards Thai herbal medicine, company might aim to create good experience of using a good product, together with communicating information and benefits from consuming Thai herbal medicine.

2. Promote Thai herbal medicine through pharmacy store

According to research result, pharmacist is one of frequently-used source of information and the important influencing factor and as the majority of users purchase medicine by themselves. Therefore, pharmacy store can be one of potential channel that increase Thai herbal medicine consumption.

3. Educate consumer through online channel

Due to online channel is becoming more popular among consumer and it is the most frequently-used source of information, the communication should aim to educate target consumer. However, online channel may not work as a selling channel according to the result of influencing factor towards Thai herbal medicine that all respondent disagreed to try well known product in social media.

4. Increase research and development

In respond to the suggestion that all respondents required for more research to support reliability of product, Thai herbal medicine company should increase the research and development about efficacy and quality of product. Moreover, the government should cooperate in the development to support the industry as all respondents trusted in product that certified by FDA.

In addition, government organization should deal with the illegal product in the market including counterfeit, overclaim and mixture of banned chemical to comfort respondents' concern of illegal product, product efficacy and product quality. Otherwise these concerns and its negative consequence would turn into barriers of Thai herbal industry.

5.3 Limitations of the Study

The limitations of this study are detailed below:

1. Due to time constraint, the sample in this study did not use a probability sampling. The study might not represent Bangkok population in every age and every socioeconomic. The interpretation of result should be carefully applied to other group of populations.

2. Compare to result of National Statistical Office, 2014 that founded users only 22% of total respondent while this study founded users up to 45% of total respondent. Nevertheless, it might be an effect of convenience and snowball sampling why this study can find more user than usual. However, it might apply in business practice by focus this population as a first target due to familiarity with Thai herbal medicine.

3. This study is not aimed to study the factors that affect purchasing decision. Therefore, the company that use the recommendation from this study to create marketing activity should conduct another marketing research in different objective.

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APPENDIX



APPENDIX A

QUESTIONNAIRE

Dear Respondents,

I would like to invite you to participate in “Influences on customers’ decision of using Thai herbal medicine” questionnaire constructed by student from Master’s Degree Program in Marketing, Thammasat University. The purpose of this research is to gather information for independent study on factors that influences customers’ decision in using Thai herbal medicine both users and non-users.

It takes approximately 15 minutes to complete. Your respond will be kept confidential and strictly used for educational purpose only.

If you have any questions regarding this survey, please contact Tunyarat.mon@gmail.com. Thank you in advance for your time and contribution to our survey :)

Definition:

Thai herbal medicine is a product made from herbs that originate in Thailand, use for treatment, prevent and maintain health. Thai herbal medicine can be found as crude or extract compound in the form of Tablet, Capsule, Liquid, Cream, Ointment, etc.

Example of Thai Herbal Medicine



Users mean respondents who have taken Thai herbal medicine in **oral dosage form** in the past six months, both for supplement and treatment purposes.

Non-Users mean respondents who have not heard of or taken Thai herbal medicine in **oral dosage form**.

Part 1: Screening Question

Q1.What is your age?

- (1) Less than 20 (*End of survey*) (2) 20-30 (3) 31-40 (4) 41-50
(5) More than 50 (*End of survey*)

Q2.Where do you live?

- (1) Bangkok Metropolitan Region (2) Other area (*End of survey*)

Q3.Have you ever consumed Thai Herbal Medicine?

- (1) Yes, I use it within 6 months
(2) Yes, I used it more than 6 months (*Go to Q15*)
(3) No, I've never known about Thai Herbal Medicine and never used it before (*Go to Q15*)
(4) No, I've known about Thai Herbal Medicine but never used it (*Go to Q15*)

Q4.Which type of Thai Herbal Medicine do you use?

- (1) Oral dosage form (Tablets, Capsules, Liquid form that you eat or drink)
(2) External use (Inhaler, Ointment, Balm, Compress ball) (*Go to Q15*)
(3) Both oral and external form
(4) Never use Thai herbal medicine (*Go to Q15*)

Part 2: Behavior towards using Thai Herbal Medicine

Q5.What type of Thai Herbal Medicine (oral dosage form) do you use?

(Multiple choices)

- (1) Tablets (2) Capsules (3) Liquid preparation (4) Self-preparation
 (5) Other, please specify.....

Q6.Which type of Thai Herbal Medicine do you normally use?

- (1) Single herbal medicine (Have only one herb as active ingredient)
 (2) Compound herbal medicine (Have more than one herb mixed for synergistic effect)

Q7.How many Thai Herbal Medicine product that you currently consume?

- (1) Only 1 product (2) 2-3 products (3) more than 3 products

Q8.What is your purpose of using Thai Herbal Medicine? (Multiple choices)

- (1) Relieve fever/cold/cough (2) Relieve flatulence/Gastrointestinal symptoms
 (3) Relieve muscle pain (4) Treat chronic disease (5) Hypnotic, Stress relaxant
 (6) For personal beauty (7) Promote Health Conditions (8) Prevent disease

Q9.Do you co-using with other Medicine?

- (1) Yes, co-using with western medicine that have same indication
 (2) Yes, co-using with other herbal medicine that have same indication
 (3) No, I do not co-using with any product.

Q10.When do you use Thai Herbal Medicine?

- (1) Routinely use (2) Only when I'm sick (3) Consume at sight

Q11.How often do you use Thai Herbal Medicine?

- (1) Everyday (2) Several days a week (3) Once a week
 (5) Once a month (6) As needed

Q12.Where do you consume Thai Herbal Medicine?

- (1) Home (2) Office (3) Car (4) Everywhere, it depends on time that I needed.

Q13.Which Thai Herbal Medicine brand do you currently use? (Multiple choices)

(Logo of each brand will be provided for the recognition)

- (1) GPO (2) Phyto-care (3) Abhaibhubejhr (4) Sand-M (5) Ouayun
 (6) I can't remember (7) I don't know (8) I don't care what brand it is
 (9) Other, please specify.....

Q14.Who decided or bought Thai Herbal Medicine product that you currently use?

- (1) Myself (2) Parents (3) Relatives (4) Friends (5) Other, please specify.....

Part 3: Perception and attitudes toward Thai Herbal Medicine

Q15.Do you have any underlying diseases?

- (1) Yes, I do. Please specify..... (2) No, I don't.

Q16.Do you take any health product routinely?

- (1) Yes, I routinely consume Vitamins
 (2) Yes, I routinely consume other dietary supplement
 (3) Yes, I routinely take personal medicine
 (4) Yes, I routinely consume other herbal medicine
 (5) No, I do not take any product

Q17.For the following statements, please indicate your **perception** towards Thai Herbal Medicine by use a five-point scale from 1-5 (1= strongly disagree, 5 = Strongly agree)

	<i>For me, Thai Herbal Medicine ...</i>	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	good efficacy	1	2	3	4	5
2	Less toxic or side effect because it's natural	1	2	3	4	5
3	good choice for curing common disease/mild illness	1	2	3	4	5
4	good for maintain health conditions	1	2	3	4	5
5	can be taken everyday	1	2	3	4	5
6	good for curing chronic illness	1	2	3	4	5
7	easy to find	1	2	3	4	5
8	a choice for self-medication	1	2	3	4	5
9	can cure only early stage of disease	1	2	3	4	5
10	have a lot of variety in product	1	2	3	4	5
11	takes longer time to cure illness compare to western medicine	1	2	3	4	5
12	obsolescence	1	2	3	4	5
13	low-quality product	1	2	3	4	5
14	difficult to prepare/use	1	2	3	4	5
15	need more research and development	1	2	3	4	5
16	need to be more reliable	1	2	3	4	5
17	have many illegal products in the market	1	2	3	4	5

Q18.For the following statements, please indicate your **attitude** towards Thai Herbal Medicine by use a five-point scale from 1-5 (1= strongly disagree, 5 = Strongly agree)

	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	I'm interested in using Thai Herbal Medicine.	1	2	3	4	5
2	I trust in Thai Traditional Medicine.	1	2	3	4	5
3	I have good experience using Thai Herbal Medicine.	1	2	3	4	5
4	I prefer modernized packaging of Thai Herbal Medicine.	1	2	3	4	5
5	I prefer western herbal medicine than Thai herbal medicine.	1	2	3	4	5
6	I think Thai Herbal Medicine is worth in terms of value for money.	1	2	3	4	5
7	In common, I prefer natural product more than chemical product.	1	2	3	4	5
8	I trust in herbal remedy and folk wisdom.	1	2	3	4	5
9	I believe that Thai Herbal Medicine will be well known if government help promoting it.	1	2	3	4	5
10	I trust Thai herbal brand that certified by FDA.	1	2	3	4	5
11	I think that Thai Herbal Medicine will be more popular if it has more promotions.	1	2	3	4	5
12	I will consume only Thai Herbal Medicine that have a good brand reputation.	1	2	3	4	5
13	I prefer self-medication rather than go to see doctor.	1	2	3	4	5
14	I have a negative impression about Thai Herbal Medicine.	1	2	3	4	5
15	I don't feel any different among Thai herbal brand.	1	2	3	4	5
16	I don't like to consume any kind of medicine.	1	2	3	4	5

Q19.What are the sources of information about using Thai Herbal Medicine that you currently use? (Multiple Choice)

- (1) Physician (2) Pharmacist (3) Other health care practitioners
(4) Parents (5) Relatives (6) Friends/Colleagues
(7) Posts, Feedbacks or Comments on social media
(8) Online search engine e.g. Google (9) Other, please specify.....

Q20.Please rank your top influencing sources of information towards decision making on using Thai Herbal medicine from 1 to 3 (1=most influence, 3=least influence)

- (...) Physician (...) Pharmacist (...) Other health care practitioners
(...) Parents (...) Relatives (...) Friends/Colleagues
(...) Posts, Feedbacks or Comments on social media
(...) Online search engine e.g. Google (...) Other, please specify.....

Q21.For the following statements, please indicate your opinion about **influence** on using Thai Herbal Medicine by use a five-point scale from 1-5 (1= strongly disagree, 5 = Strongly agree)

	Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Parents recommended me to use Thai Herbal Medicine.	1	2	3	4	5
2	People around me use Thai Herbal Medicine.	1	2	3	4	5
3	I searched about Thai herbs before I take it.	1	2	3	4	5
4	I use Thai Herbal Medicine as my parents requested.	1	2	3	4	5
5	I will use only if Doctor prescribe to me.	1	2	3	4	5
6	My friends/colleagues recommended Thai Herbal Medicine to me.	1	2	3	4	5
7	I want to try Thai Herbal Medicine that is well known in social media.	1	2	3	4	5
8	I will use Thai Herbal Medicine if pharmacist recommended me.	1	2	3	4	5
9	I'm interested in Thai Herbal Medicine promoted by alternative medicine practitioner.	1	2	3	4	5
10	I need to know more about clinical trial or scientific evidence related in particular herb before using it.	1	2	3	4	5
11	I will recommend Thai Herbal Medicine to my friend/family	1	2	3	4	5
12	No one can change my mind about using Thai Herbal Medicine.	1	2	3	4	5
13	I read label before buying or using it.	1	2	3	4	5
14	I tend to increase a usage of Thai Herbal Medicine	1	2	3	4	5
15	I will continue using Thai Herbal Medicine	1	2	3	4	5

Q22.What is your major concern about using Thai Herbal Medicine? (Multiple Choice)

- (1) Don't know how to use (2) Over doses usage (3) Side effect
 (4) Product quality (5) Efficacy of product (6) Long term effect
 (7) Counterfeit products (8) Scientific prove (9) Packaging (10) Price
 (11) Difficult to find/buy (12) Other people's perception towards me.

Part 4: Profile of respondents

Q23.What is your gender?

- (1) Male (2) Female

Q24.Who are you living with?

- (1) Individual (2) With Parents (3) With couple/children (4) With friends

Q25.What is the highest degree you have completed or currently study?

- (1) Less than high school (2) High school or equivalent
 (3) Diploma / High Vocational Certificate (4) Bachelor's degree
 (5) Master's degree (6) Higher than Master's degree

Q26.What is your educational background?

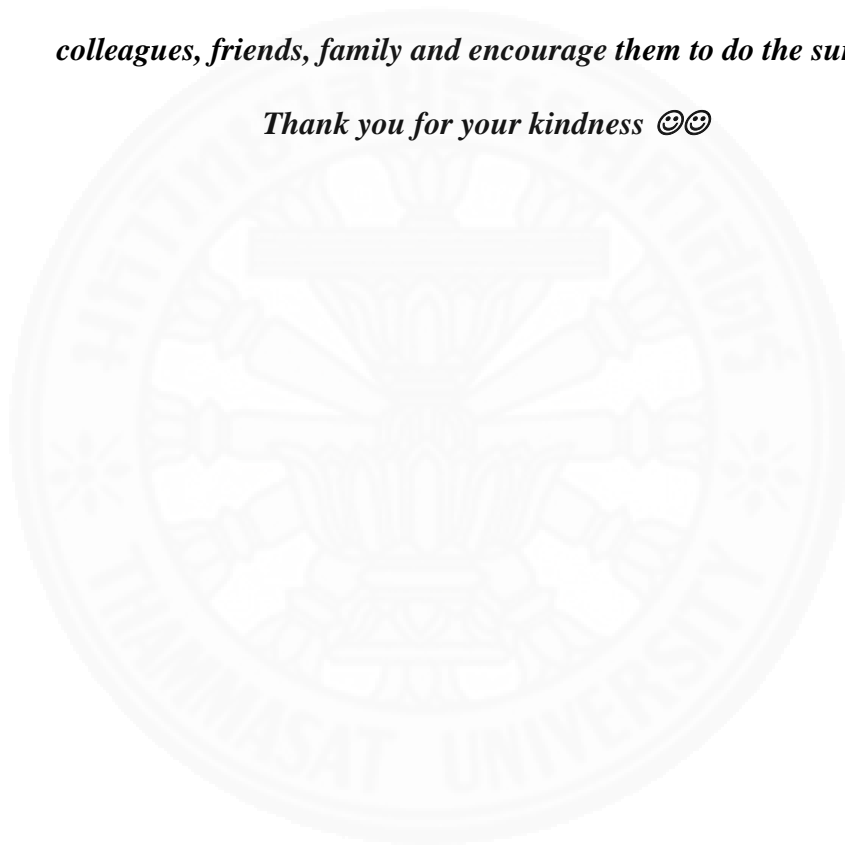
- (1) Health Science Categories (e.g. Medicine, Nursing, Dentistry, Pharmacy, etc.)
 (2) Pure and Applied Science Categories (e.g. Science, Engineering, Agricultural, etc.)
 (3) Arts Categories (e.g. Fine and applied arts, Arts, Architecture, communication arts,
 (4) Commerce Categories (e.g. Commerce and accountancy, Economics, etc.)
 (5) Humanities and Social Science Categories (e.g. Law, Political Science, Education, etc.)

Q27. Approximately, what is your monthly income?

- (1) Less than 18,000 Baht (2) 18,001-24,000 Baht (3) 24,001-35,000 Baht
(4) 35,001-50,000 Baht (5) 50,001 – 85,000 Baht (6) More than 85,000
Baht

End of survey. Please help me gather respondents by share this survey to your colleagues, friends, family and encourage them to do the survey.

Thank you for your kindness 😊😊



BIOGRAPHY

Name	Miss Tunyarat Chankaew
Date of Birth	April 18, 1988
Educational Attainment	Bachelor of Science in Pharmacy, Chulalongkorn University
Work Experiences	2012 – Present: Therapeutic Sales Representative Pfizer (Thailand) Co., Ltd. 2011: Product Specialist Siam Pharmaceutical Co., Ltd.

