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Integration of Thai traditional medicine into physicians' practice part 1: Conditions facilitating the integration

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Abstract

The purpose of this study was to gain a greater understanding of the physicians' experiences in the conditions facilitating physicians to integrate Thai traditional medicine (TTM) into their current practice. A qualitative grounded theory method was deemed to be the best way to explore the ways of knowing and thinking about the interested issues from physicians' perspective. Primary data were collected by conducting semi-structured and open-ended interviews, observations, interview with patients and staff, and hospital chart, record and document review. A systematic analysis was undertaken using grounded theory methods to explain the conditions facilitating physicians to integrate TTM in their practice. A purposive sample of 12 participants was obtained from physicians working in seven hospitals under the Ministry of Public Health (MOPH) with successful or unsuccessful integration of TTM into their practice at their hospitals. Four participants were directors of community hospitals with 30 - 120 beds. Five of them were general practitioners in community and general hospitals with 30 - 258 beds. The other three physicians were specialists in orthopedic, anesthesia and internal medicine in hospitals with 120 - 341 beds. The findings showed that the conditions facilitating physicians to integrate TTM in health care systems were 1) the MOPH policy, 2) physicians' perceptions on limitations, side effects, and high cost of modern medicine and 3) their knowledge, attitude, understanding, and trust in TTM. The study identified these 3 conditions as a prerequisite for successfully integrating TTM into physicians' practice.

Keywords: Physicians, Thai traditional medicine, Knowledge, Attitude, Understanding, Trust

Introduction

Thailand's current health care system is in the pluralistic medical system [1, 2]. Modern medicine has become the mainstream health care system and Thai traditional medicine (TTM) has become a branch of non-conventional or alternative medicines in Thailand [3]. Eventually, it is well recognized that modern medicine is probably not the definite answer to the health of the nation. A large portion of the country's healthcare expenditure has spent more on the treatment of diseases with costly and sophisticated equipment and imported new drugs than on the prevention of diseases and health promotion [3]. The Food and Drug Administration (FDA), under the Ministry of Public Health (MOPH), reported that Thailand imported 64.11 million THB, 70.60 million THB, 99.66 million THB, 98.22 million THB and 111.12 million THB of modern medicine in 2008, 2009,

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2010, 2011 and 2012, respectively, with an increasing rate of 10 - 40 % per year [4]. Medical expenditures per capita of Thais were 680 THB, 1,425 THB, 2,401 THB, and 2,546 THB in 1978, 1987, 2010 and 2011, respectively [5]. The MOPH has been trying to contain health care expenditures by implementing various measures and programs such as Drug Use Evaluation (DUE), Antibiotic Smart Use (ASU) program, promotion of the use of drugs in the National List of Essential Drugs, payment based on the Diagnosis-Related Group (DRG), and regulation of the inventory control and supply of medication [6]. However, these measures showed a limited or a transient effect on health care spending. Therefore, it is necessary to seek a safe, economical and efficient alternative service in health care system [7].

Thailand has its own system of traditional medicine called "Thai Traditional Medicine" (TTM). TTM is the practice of the art of healing based on Thai traditional knowledge or textbooks that has been passed on and developed from generation to generation or based on the education from academic institutes that the Professional Committee approved [8]. High burden on health care expenditure and the growing demand of herbal products and TTM services such as Thai massage have also played a role in the "come back" of TTM.

Successful integration of TTM to the mainstream health care delivery needs to consider social, cultural, political, and economic contexts affecting the use of TTM. Physicians play a crucial role in the successful integration of TTM in current health care systems. However, the study on physician's experience on the issues is scant. Our studies on the integration of TTM into physicians' practice are divided into two parts. This article, the first part of the studies, determines the conditions facilitating the successful integration of TTM into health care systems using the grounded theory approach. The second study emphasizes on raising consciousness model explaining the process of TTM integration in physicians' practice. The information from the studies would suggest intervention for successful integration of TTM into health care systems.

Methodology

Site Selection and Sample: The research focused on experiences among physicians working under the Ministry of Public Health in 14 provinces in the South of Thailand. The criterion for selecting participants from the population reflected the purpose of the study and aimed to identify information-rich cases. Participants were the physicians working in health care facilities with successful or unsuccessful integration of TTM as measured by the fulfillment of Key Performance Indicators (KPIs) set by the MOPH for each level of hospitals. The KPIs were: 1) at least 2 %, 5 % and 10 % of total drug expenditure should be spent on herbal derived medication in regional hospitals, general hospitals and community hospitals, respectively, 2) at least 20 items of herbal derived medication have been used in all levels of the hospitals, and 3) for all of the health facilities under the MOPH, at least 10 % of outpatients shall receive TTM services or alternative medicines.

Initially, a purposive of three participants was selected from those who met the study criteria. They were physicians, ages forty three to fifty eight years, having integrated TTM into their practice, being Buddhist, using TTM in their daily life, and having attended TTM training. Subsequent theoretical sampling guided further recruitment of the participants. Later, a purposive sample of 12 participants was obtained from physicians working in seven hospitals within five provinces under the MOPH with successful/unsuccessful integration of TTM into their practice at the hospitals. These seven hospitals have 30 beds, 90 beds, 120 beds, 258 beds, 341 beds, and offer services to as many as 480 – 550 outpatients per day.

Characteristics of 12 participants are displayed in Table 1. Four participants (S1, S2, S5, and S11) were directors of community hospitals with 30, 30, 90, and 120 beds, respectively. Three of them were 52 - 58 years old with 25 - 31 years of working experience under the MOPH. The youngest director was 36 years old with 11 years of working experience. All of them had attended TTM training programs or conferences. Two out of four directors were successful in integrating TTM services into their hospital services as measured by the fulfillment of the KPIs of the MOPH.

Eight practicing physicians participated in the study. Five of them (S3, S8, S9, S10, and S12) were general practitioners, while three were specialists in anesthesia (S4), orthopedic (S6), and internal medicine (S7). The anesthetist also got a certificate in Traditional Chinese Medicine (TCM). Two general practitioners (S8 and S9) worked in the community hospitals where TTM integration was successful. The other six physicians worked in general hospitals or community hospitals not able to satisfy the MOPH's KPIs on TTM. The age of general practitioners ranged from 32 - 55 years old with 6 - 30 years of working. Those two who worked in the hospitals with successful integration were younger with 32 and 34 years old. The specialists aged 43 - 54 years old with 18 - 25 years of working experience. All of them had attended TTM training programs or conferences.

Eight physicians with the unsuccessful integration of TTM were interviewed in the study in order to shade the light on their thinking, and feeling on TTM which was important information to understand the conditions facilitating the use of TTM in practice. The exclusion criterion for this study was those with the denial or nonattendance of the interview. One physician was excluded from the study because he was not available for the interview.

Data Collection: Grounded theory method was the methodology chosen for this study. A qualitative grounded theory method was deemed to be the best way to explore the ways of knowing and thinking about the interested issues from physicians' perspectives. Data collection methods included interviews, behavioral observations, and hospital charge review. Interview was the primary source of data and other methods were supplementary and served to provide additional information to saturate codes and validate codes.

Interviews: The researcher clearly explained the procedure in the study to the participant who was eligible at the time they feel comfortable. The potential participants were asked to sign the consent form for the enrollment. In the main fieldwork, semi-structured interviews were conducted using open-ended questions. The questions were both semi-structured and open-ended to encourage free expressions of interviewees' thoughts and feelings. The interview guide covered the questions on their understanding of TTM and their perception of the conditions of successful integration such as "What are the conditions that motivate you to interest in TTM?", "How do you think about the integration of TTM with modern medicine?", and "How do you feel that you are physician who use TTM as part of treatment and what is the most meaningful to you?". Questions such as these would give the opportunity for the physicians to express their thoughts and feels openly and use these methods for persuading the health care personnel.

All interviews were conducted in Thai and were translated to English later. The content of the interview was tape recorded with the consent of the participants and the researcher took a memo about gestures and facial expressions. Tape recordings of the interviews were transcribed verbatim into text for data analysis. Interviews were conducted in the hospitals where the participants worked at the times convenient to them. The researcher asked the participants to select the interview place to avoid interruption and ensure privacy. The interview lasted with an average of 55 - 70 minutes in duration. Mostly, the interviews occurred in a private workplace at the out-patient unit in the hospital. They were informally interviewed and observed for their verbal and non-verbal expression in using TTM in their practices.

Table 1 Participant Characteristics (N = 12)

Participant	Position	Work setting (beds)	Age	Working years	TTM Training	TTM Integration (measured by KPIs of MOPH)
S 1	Director	Community hospital (30)	58	30	yes	Unsuccessful
S 2	Director	Community hospital (30)	36	11	yes	Successful
S 3	General practitioner	General hospital (258)	55	30	yes	Unsuccessful
S 4	Anesthetist & Traditional Chinese Medicine practitioner	General hospital (341)	43	18	yes	Unsuccessful
S 5	Director	Community hospital (90)	52	25	yes	Successful
S 6	Orthopedic doctor	Community hospital (120)	38	13	yes	Unsuccessful
S 7	Specialist physician	General hospital (341)	54	25	yes	Unsuccessful
S 8	General practitioner	Community hospital (30)	34	9	yes	Successful
S 9	General practitioner	Community hospital (30)	32	6	yes	Successful
S 10	General practitioner	General hospital (258)	49	23	yes	Unsuccessful
S 11	Director	Community hospital (120)	57	31	yes	Unsuccessful
S 12	General practitioner	Community hospital (120)	30	4	yes	Unsuccessful

Observations: The physicians were observed for their use of TTM in practice at their health care setting. The researcher conducted observations of unstructured situations in order to assess the physicians' thought and validate the data from interviews about the conditions influencing physicians to integrate TTM into practice. The observation started approximately five minutes after talking with a participant. These observations included the interaction between participant and patients, nurses, pharmacists or other providers. Each activity was observed about 15 - 20 minutes or until no new data or behaviors occurred. Complete descriptions of everything observed were recorded in the field note at the time the observations were made or as close as possible to the observed events. Unstructured observations were appropriate for this level of inquiry because it permitted flexibility in exploration.

Interview with patients and staffs: Six patients were informally interviewed on their treatment to verify the data from observation and interview. Four nurses were also informally interviewed on the treatment prescribed by physicians and were asked to collect the documentation of physicians' assessment and treatment with TTM. One staff pharmacist responsible for dispensing herbal medication and one physician (not the informant) were observed and also informally interviewed to confirm what the researcher observed and coded.

Hospital Chart, Record, and Document Review: The researcher analyzed documents to gain more insight into the studied phenomena. The researcher reviewed 28 hospital charts on the information about physicians' practices as a part of methodological triangulation. Furthermore, relevant documents such as policies on TTM use from the Pharmacy and Therapeutic Committee of the hospital, information related to demographic data, the usage of herbal medicines, Thai traditional massage, herbal compress, and herbal steam, type and amount of TTM prescribed to the patient were also reviewed.

Data Analysis: All data were analyzed by the researcher. Data analysis was simultaneously conducted with data collection. Three types of coding (open, axial, and selective coding) [9], constant comparison, theoretical sampling, and memo writing were used as the main strategies through the theoretical sensitivity of the researcher.

The data were coded from initial three interviews and other methods of data collection such as observations with open coding, using the "ing" gerund coding method (9). After the interview, data were immediately transcribed and recorded in the format of the interview notes in the Thai language. Every piece of data from the observations, interviews, document review and hospital chart review were analyzed line by line. The code sheet was constructed to include information about the gerund code method. Member checking was concurrently conducted with each participant and in subsequent interviews with the additional participants. The final findings were also translated into English. Triangulation techniques were used to ensure confirmability and trustworthiness. In this study different sources (patients, staff, hospital and document reviews) and different methods (interview and observations) were used to check the credibility of the findings.

Results

The study was found that the conditions facilitating physicians to integrate TTM into their practice included 1) the MOPH's policy and 2) physicians' perceptions on the limitations, side effects, and high cost of modern medicine and 3) their knowledge, attitude, understanding, and trust in TTM (Figure 1).

The Ministry of Public Health's Policy: From the interview, all participants recognized that the policy of the MOPH has emphasized the revival and development of TTM and the encouragement of all hospitals to integrate TTM into their current health care systems. This policy has stemmed from the policy of Thai government that has recognized the importance of herbal products to the health of Thais and to Thai economy owing to the increased demand from the domestic and global markets. MOPH implemented the policy to promote the use of TTM in health service facilities by appointing the "Committee for the Development of Herbal Products Industry" headed by the Minister of Public Health. The Committee and its subcommittees then formulated the "Strategic Plan for the Development of the Herbal Products Industry" for the years 2005 - 2009, which was approved as the national plan by the Cabinet on 2004. In addition, on June 2004 the government also approved the "Strategic Plan to Develop Thailand as the Centre of Excellent Health Care of Asia" implemented during 2004 - 2008. One of the purposes of this Plan was to accomplish the goal of Thailand being "The Origin of Precious Herbs for Superior Health". According to the policies of the government presented to the parliament on March 2005, TTM was still a part of the national health policy as the government planned to "develop, transfer, and protect the wisdom of TTM, indigenous medicine, alternative medicine and medicinal plants".

The policy of Thai government to promote the use of medicinal plants and TTM in the hospital was stated in the Fifth to Tenth National Economic and Social Development Plans (2007 - 2011). MOPH set the following KPIs on TTM use: 1) at least 2 %, 5 %, and 10 % of total drug expenditure should be spent on herbal derived medication in regional hospitals, general hospitals and community hospitals, respectively, 2) at least 20 items of herbal derived medication have been used in all levels of the hospitals, and 3) for all of the health facilities under the MOPH, at least 10 % of outpatients shall receive TTM services or alternative medicines. These strategies have turned the public hospitals across Thailand to the integration of TTM into their health care services.

The hospitals adopted the policy from the MOPH by setting up its own policy, goals, infrastructure, personnel, TTM clinic, and production of TTMs such as Turmeric capsules, Paniculata capsules, and balm. The hospital policy detailed the integration process of TTM services and the roles of health care providers accordingly.

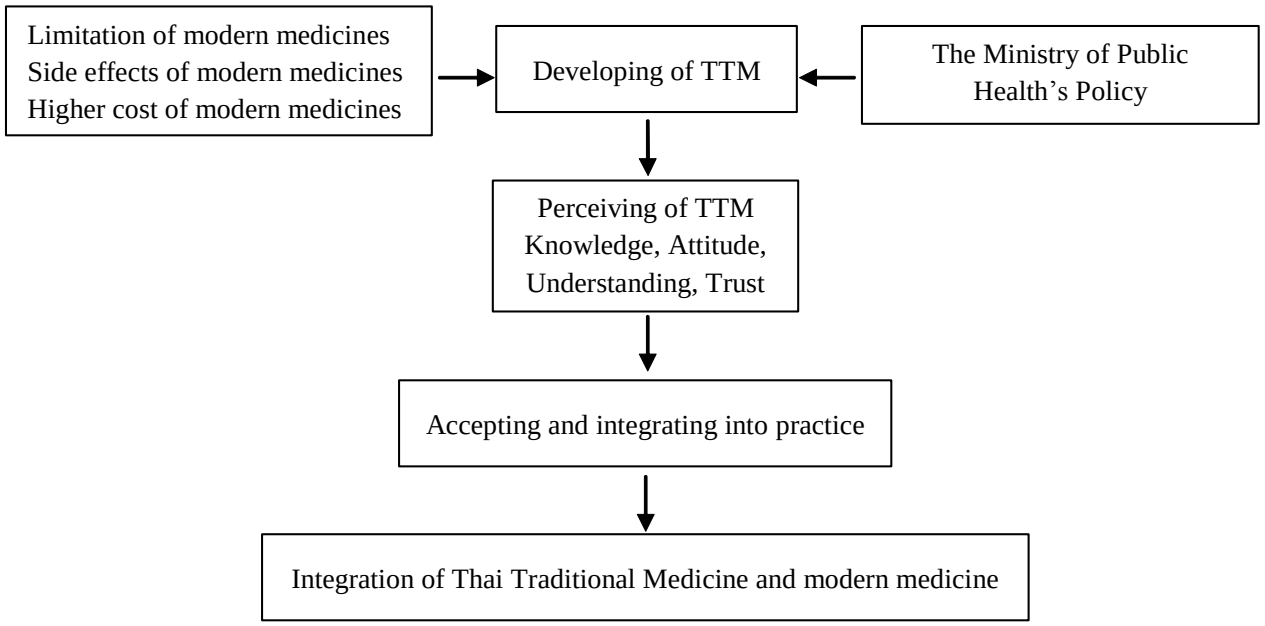

Figure 1 Conditions facilitating the integration of TTM into practice: Physicians' Experiences

An example of integration policy in some hospitals was the policy on the treatment of muscle pain with Thai massage by applied TTM practitioners and herbal medicines dispensed by pharmacists.

Physician' perceptions of TTM: Participants in the study perceived that Thailand followed WHO's initiatives for three reasons i.e., limitations, side effects, and high cost of modern medicine.

Limitation of modern medicine: Limitation of modern medicine referred to unsatisfactory result from the treatment based on modern medicine and the inaccessibility to treatment. All of the participants realized this limitation. One stated that

"*Modern medicine is not the definite answer of treatments for all conditions. Modern medicine has advanced its treatment with the goal to completely cure all patients. This is, very obvious, the mentality of specialists. We use every treatment we got in the repertoire, but we, sometimes, cannot achieve ultimate goal of treatment. For instance, patients with herniated disc were not recovered after having surgeries from medical schools, general hospitals or regional hospitals. It implies that Western medicine we are applying is not the only answer for taking care of patients with these disorders*" (S6).

Limitation of modern medicine was partly the result of patient inaccessibility. One of the physicians said that

"*Although there are numerous specialties in modern medicine, but there are still limitations in access*" (S3).

*Side effects of modern medicine***:** Many participants stated that they integrate TTM into their practice because they encountered modern medicine's side effects. One said that

"*I think modern medicine is not hundred percent cure and, sometimes, does more harm than good. For example, a patient with bone fracture had been hospitalized for 3 - 4 days. The wound was not examined by the doctor during ward round, and was not bandaged on a regular basis because it was splinted…then foul odor coming from the wound. This is very different from those patients receiving care from temples. They apply oil massage in patients with bone fracture. They got a very different kind of skill…from what I experienced*" (S3).

Some regarded TTM as a way to avoid adverse reactions of modern medicine. "*I introduce TTM to this hospital for patients with gastric ulcers, muscle sprain, and promoting the use of medicinal plants instead of steroids*" (S1).

Higher cost of modern medicine: Higher cost of modern medicine relative to that of TTM was frequently mentioned as a reason for driving physicians to pay more attention to TTM. A physician said that

"*Expenditures on modern medicine are quite high. Treatment based on Thai traditional medicine will show health benefit in the long run, i.e. it is health promoting. Patients do not get poorer from treatment. This is different from treatments with modern medicine in the hospitals that are not holistic and incur high cost of treatment*" (S1/ P4/ l104).

Knowledge, attitude, understanding, and trust in TTM:

Knowledge: In this study, all of the physicians perceiving the benefits, effectiveness, and efficacy of

TTM were TTM accepting physicians, i.e., the ones who applied TTM in their own practices. The accepting physicians stated that they had to be knowledgeable on various aspects of TTM such as the indications and drug interactions in order to use TTM as a way to avoid the limitations, adverse effect, and higher cost of modern medicine.

"*Physicians must be both knowledgeable and felt impressive before they really do it. If these two conditions exist, the success ensures. Many herbal medicines are being prescribed by physicians such as Turmeric, Andrographis paniculata, and Taowan Preeng. Physicians in the hospitals have already used them in practice because they have knowledge and understand indications and adverse effects of them. They become impressed if herbal medicines are effective, leading to higher extent of use*" (S3).

One of the physicians said that knowledge is crucial for successful integration of TTM and modern medicine. "*I think, at present, the degree of integration is very low because what we know about TTM is what we are told by the previous generations. We know just what will happen if we follow them. [We] Don't know the underlying processes. In order to integrate both types of medicines, physicians and relevant parties must be knowledgeable on TTM, its benefits and limitations*" (S1).

Attitudes: Positive attitude towards TTM was evident in those who integrated TTM into their practice.

"*I feel great that someone [TTM practitioner] help us in treating the patients, making it more comprehensive. Working as a multidisciplinary team gives more benefit to the patients. It is meaningful and very valuable. The integration of TTM and modern medicine expands my horizons and changes my viewpoints on conventional treatment [western medicine] and new treatments that we never knew before, but have long existed [TTM]. [Physicians] Needs to be open minded and accept it*" (S6).

Understanding: Understanding holistic nature of TTM, its significance or potentials in treatment and its impact on self-reliance in drug of the country are crucial for physicians to accept and integrate TTM into their practices. The recognition of the roles of TTM in supporting self-reliance of Thailand in the area of drugs was another aspect of TTM understanding that facilitated its acceptance. The appreciation of holistic nature of TTM is reflected in the following statement by a participant:

"*TTM, like modern medicine, covers four medical processes including examination - diagnosis, treatment, prevention of diseases and health promotion. Midwifery, Thai massage, production of traditional drug preparation, production of devices, and instruments for medical purposes…all are based on knowledge or textbooks passed down from generation to generation. In sum, TTM is in the form similar to modern medicine*" (S6).

One of the physicians stated, "*TTM is holistic medicine dealing with physical, mental, spiritual, and social aspects of heath*" (S1).

One of the physicians concluded that TTM was "*Low tech, high touches*" (S2). His realization was "*TTM was simple, but it is valuable*".

Many participants emphasized the congruence with Thai culture as an important aspect of TTM. One of the physicians said, "*TTM is a holistic and naturalistic approach of health care derived from Buddhist beliefs, the observation of and respect for nature, and the wisdom of Thai ancestors or those who Thailand had contact in the past, e.g., India and China, to suit the Thai way of life*" (S5).

One physician was personally interested in TTM and psychological aspects of health care. He even got a certificate in Chinese medicine. This interest made him appreciate the concept of holistic medicine, which is the predominant characteristic of TTM.

Trust: Numerous examples show that trust on TTM plays an importance role on its acceptance among physicians and on TTM integration in routine practices. Trust could be created through ones 'exposure to opinion leaders or significant others who use TTM such as former teachers in medical schools, respected medical doctors, doctors with successful application of TTM, dedicated workers in TTM, family members or patients. One of the physicians stated that

"*I trust associate professor Laddawan Suwankitti, a faculty in anesthesiology at Siriraj hospital. I had attended her lecture on acupuncture theory, trigger point model, I felt confident in the method and have applied it in my practice*" (S1).

Many mentioned Dr. Pennapa Supcharoen, who passed away in 2008, as their opinion leader who motivated them to become trustful in TTM. She was a well-respected physician and former director-general of the Department for Development of Thai Traditional and Alternative Medicines who played a very important role in revival and development of TTM in the country. One participant said that

"*[Doctor Pennapa Supcharoen]…was really my role model who I really admired. She was the first who brought TTM back to health care services under the MOPH. I regard her as the pioneer. Her work helped expand TTM work in the MOPH as we see it today*" (S5).

A specialist medical doctor mentioned the former Physician Chief of Provincial Public Health in his province as his role model. The Chief left the office and now serves as the Vice Director of the Department for Development of Thai traditional and Alternative Medicine.

Success story in TTM also created trust. One of physician said that "*I learn that a medical doctor in Singburi hospital cured his patients [with snake bites] with these herbs, Lodthanongdaeng and Betal. This interested me, and [I] looked into it with my own patients. However if there is no improvement after many days of treatment, I will prescribe vaccine*" (S2).

Dedicated non-physicians workers in TTM, such as Mr. Suthon Pornbunditpattama--a scholar in Thai folk medicines, was mentioned as an influential figure on TTM trust among physicians.

Besides respected medical doctors or health professionals, some physicians changed their perspectives on TTM and trusted TTM because of their family members who personally used TTM or was a TTM practitioner. Patients were also mentioned as a source of influence on physicians' trust on TTM. One physician also said that

"*Patients are the most influential on my decision to bring Thai traditional medicine into the health care systems in the hospitals, and set up service deliveries such as giving them choices of treatment modalities [modern medicines or TTM]. And I asked my patients to share to me their successful TTM treatment*" (S4).

One of the physicians said that "*Since my graduation from medical school, my practice had been strictly in the realm of modern medicine. When I have become an orthopedic doctor and practiced for a while, I realized that the hospital where I work is nearby Petchaksem road, but patients with bone fracture choose to go to folk healers,…. These patients were those who I informed that they needed surgery. We lost this group of patients from our system to folk healers who were so far away from the hospital…in the forest. Traveling there was far less convenient than visiting the hospital… This sparked my interest and started asking the question, what attracted the patients*" (S6).

Discussion and Conclusion

The study identified three groups of conditions facilitating physicians to integrate TTM into their practice including 1) the MOPH's policy, and 2) physicians' perceptions on the limitations, side effects, and high cost of modern medicine and 3) their knowledge, attitude, understanding, and trust in TTM. We could identify only one similar study in Sung Noen Contracting Unit of Primary Care [10]. The previous studies focused on one narrow aspect of TTM integration i.e., physician prescribing of herbal medicine. from the perspectives of modern medicines and TTM staff, and TTM consumers. It identified three factors influencing physician prescribing of herbal medicine including knowledge on herbal medicine, attitudes toward herbal medicine, and system factor [10]. System factor included 1) hospital policies, 2) health insurance scheme covering the use of herbal medicine, 3) budget, 4) the existence of herbal drugs, 5) the dissemination of information, and 6) comprehensive implementation of herbal medication with community involvement in herb cultivation and hospitals as purchasers of the herbs for production of herbal medicines [10]. Our result was similar to the result in the previous study but some of system factors were not mentioned by the participants in our study. This may result from the major change of the system supporting the use of TTM. For example, coverage of TTM by health insurance scheme and the existence of herbal drugs were, once, used to be barriers in TTM use. However, policy change mandated national insurance scheme coverage and availability of TTM services in public facilities. The study at Sung Noen identified community involvement in the production of herbal drugs as one of system factor influencing the use of the products. This factor did not emerge in the current study because it was specific to the context of study sites.

The strength of this research is to study the physicians' experiences on TTM integration from their own perspectives, feeling, opinion, and thinking by a naturalistic approach. Consequently the findings provide a comprehensive understanding on the interested phenomena. The result of the study should be powerful to explain the variation in TTM integration among hospital settings having similar context to those in the study. Another strength of this study was the use of three different methods of data collection (interview, observation, and document review) and six different data sources (physician, nurse, TTM academic, pharmacist, patient, and hospital charge reviews). Data from different methods and sources served as triangular in order to check the credibility of data findings and assure the validity of the data. However, the findings of this study were specific to the context of general and community hospitals in the south of Thailand. Data collection from hospitals with different cultures such as university hospitals or those in the other regions may extend the results of the study. For example, community involvement, inter hospital networking and patients show a minimal role in TTM integration in this study.

The study indicates the crucial role of physicians as "a change agent" in TTM integration. In order to expedite the TTM integration on national scale, the "trigger point" would be the development of a critical number of change agents along with the policies supporting TTM prescribing. Early exposure of TTM value among medical students should be a prime measure. TTM knowledge and skill should be taught in medical schools. Positive attitudes towards TTM should be instilled in the early year of training. Early exposure to TTM would transform their perspectives and become trustful of TTM. Medical schools are the fertile ground for cultivate knowledge, attitudes, understanding and trust on TTM, resulting in the graduates who accept and integrate TTM into their practice in the future. Successful socialization in medical schools would also produce graduates who themselves are "change agents" for TTM integration in their future workplace. Development of role models and opinion leaders on TTM is another effective strategy. Role models and opinion leaders on TTM are often mentioned as motivating factors for physician to pay attention in TTM.

MOPH should publicize the work or success stories of these dedicated figures on an ongoing basis. Media on their work should be produced in the form that is accessible to target group. The establishment of innovative subspecialty "holistic medicine" integrating western and eastern concepts of care would create a strong foothold for TTM. It symbolizes the acceptance of TTM of those in modern medicine. Close monitoring of TTM related policy implementation among public facilities is also recommended. The study clearly indicates that policies at both national and hospital level motivate the interest in TTM among physicians. However, supervision and feedback are important for successful policy implementation. MOPH should set the systems to closely monitor policy compliance and more important, giving feedback to the individual hospital.

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