

แบบจำลองการพัฒนาจิตสำนึกด้านสุขภาพ  
ระหว่างและหลังการแพร่ระบาดของโควิด-19 ในประเทศไทย  
A HEALTH CONSCIOUSNESS DEVELOPMENT MODEL  
FOR THAILAND DURING AND POST COVID-19

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## บทคัดย่อ

การวิจัยเชิงคุณภาพนี้มีวัตถุประสงค์เพื่อศึกษาพฤติกรรมการใส่ใจสุขภาพและการประยุกต์ใช้วิธีการป้องกันโรค และเสนอรูปแบบในการพัฒนาจิตสำนึกด้านสุขภาพเพื่อป้องกันโรคในช่วงระหว่างและหลังการแพร่ระบาดของโควิด-19 ของประชาชนไทย สุ่มตัวอย่างผู้ให้ข้อมูลหลักแบบเจาะจง จำนวน 60 คน ใช้แบบสัมภาษณ์เก็บรวบรวมข้อมูลทางโทรศัพท์ และแอปพลิเคชัน LINE วิเคราะห์ข้อมูลด้วยการวิเคราะห์เนื้อหา ผลการวิจัยพบว่า การแพร่ระบาดของ โควิด-19 เริ่มต้นเมื่อเดือนมกราคม 2563 ก่อให้เกิดความตื่นตระหนกแก่บุคคลไปทั่วโลก มีรายงานทางการแพทย์ยืนยัน

กรณีการติดเชื้อและการตายจากการติดเชื้อในประเทศต่าง ๆ ณ วันที่ 23 พฤษภาคม 2563 เป็นจำนวน 5,103,006 คน และ 333,401 คน ตามลำดับ วิธีการที่จะหยุดยั้งการแพร่ระบาดและการรักษาผู้ป่วยที่ติดเชื้อเพื่อลดจำนวนการเสียชีวิตจากการแพร่ระบาดของโรคนี้นับเป็นสิ่งสำคัญอย่างยิ่งที่จำเป็นต้องมีการทำวิจัยอย่างเร่งด่วน อย่างไรก็ตามจุดสนใจมักจะมุ่งไปที่การรักษาเป็นส่วนใหญ่ซึ่งถือได้ว่าเป็นวิธีการเชิงรับ มาตรการป้องกันต่าง ๆ เช่น การใช้เครื่องป้องกันส่วนบุคคลและการเว้นระยะห่างทางสังคมถือได้ว่าเป็นมาตรการเชิงรุกและมีประสิทธิภาพในการลดการติดเชื้อ ในขณะที่เดียวกันโอกาสที่จะเกิดการแพร่ระบาดซ้ำอีกยังไม่ได้รับการเอาใจใส่อย่างเพียงพอ ทั้งนี้จิตสำนึกด้านสุขภาพของประชาชนถือว่าเป็นปัจจัยที่สำคัญยิ่งที่จะมีส่วนสำคัญในการป้องกันสถานการณ์ดังกล่าวนี้ การศึกษาครั้งนี้จึงมีจุดมุ่งหมายที่จะพัฒนาแบบจำลองจิตสำนึกด้านสุขภาพของประชาชนเพื่อป้องกันโรคอุบัติใหม่ในปัจจุบันและในอนาคตหลังการแพร่ระบาดของโควิด-19 ในประเทศไทย

**คำสำคัญ :** โควิด-19, โรคอุบัติใหม่, จิตสำนึกด้านสุขภาพ, การระบาดใหญ่

## ABSTRACT

This research study employed a qualitative research methodology aims in studying the health relating to cognition consciousness strategies that applied to prevent the emerging diseases COVID-19, and propose a model in Thailand. Participants as the key informants using purposeful sampling technique. Data were collected from 60 key informants via telephone interviews and the communication between the researchers and the key informants was via the LINE application and a qualitatively directed content analysis. The COVID-19 pandemic, beginning in January 2020, has caused frightening effects to people across the world. It has been reported that the confirmed cases of infection and deaths in all countries as of 23 May 2020 were 5,103,006 and 333,401 persons, respectively. To stop the pandemic and to treat the infected patients in order to reduce the death toll and to prevent its recurrence are very important issues requiring urgent research. However, attention has been focused on the treating part which is considered a reactive approach. Preventive measures are considered proactive and effective approaches to reduce infections. It is considered that the chances of a recurrence of the pandemic have not been given sufficient attention. Health consciousness of the people is one of the most important factors contributing to this situation. This study aimed to develop a model for developing health consciousness to prevent emerging diseases at present and in the future after the COVID-19 pandemic in Thailand.

**Keywords:** COVID-19, Emerging disease, Health consciousness development, Pandemic

## INTRODUCTION

The COVID-19 pandemic, starting in January 2020, is shocking and shaking the confidence of people around the world. It spread very rapidly to almost all countries across the world since the first case was found in Wuhan in Hubei Province of China in December 2019 (Davidson, 2020, online; Tay et al., 2020, p. 363). According to Tay et al. (2020, p. 363) “the causative virus, severe

acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is capable of human-to-human transmission and spread rapidly to other parts of China and then to other locations”. It was reported by the World Health Organization (WHO) that, as of 23 May 2020, the numbers of confirmed infected cases and deaths were 5,103,006 and 333,401 respectively. At the same date, the confirmed infected cases and deaths in Thailand were 3,040 and 56 respectively, while the highest number of confirmed infected cases and deaths of 1,547,973 and 92,923 respectively occurred in the USA (WHO, 2020, online).

Most countries were unprepared for the pandemic (Perencevich, Diekerma, & Edmond 2020, online). A lack of personal protective equipment (PPE), such as masks and ventilators, not only for the people in general public, but most importantly for the front-line healthcare personnel, such as doctors, nurses, public health professionals and other essential workers was experienced in almost all countries. As yet, there is no direct cure or vaccine for this virus. Immediate attention was given to testing and tracing activities to discover the infected persons, following up with the treatment of patients. Many preventive strategies were advised, such as frequent hand washing, social distancing, staying at home orders, avoiding large group gatherings and traveling, including personal isolation or quarantine and lockdown of cities and even whole countries. These precautionary actions led to economic and social problems, especially the closing down of businesses and certain non-essential services that created immediate unemployment of many thousands of workers.

These changes caused various unforeseen emerging diseases from time to time and caused immediate infections and deaths of people at any time, as is evidenced in the case of COVID-19. In addition, it is expected that the pandemic will create change in various dimensions of the environment and in the way of life of the people across the world, including Thailand. It is essential that the readiness be heightened of all countries to face, manage, overcome and even to prevent the emergent of such diseases. Therefore, research studies in various dimensions, both at the policy and practical levels, are required. Many study topics have been recommended (Haleem, et al., 2020, p. 1524). Many of these studies have been conducted and several of them are in progress. However, most of them are dealing with COVID-19 diagnoses and treatments. Thus, research in the area of prevention and coping, including managing the response to the pandemic through the development of a health consciousness development model (HCDM) for application worldwide is essential at this crucial time.

Since the emerging disease is normally an unforeseen incident and could occur at any time, it spreads rapidly and, if it is not be managed properly and effectively, it becomes a pandemic and is very dangerous and very difficult to handle. Readiness to respond to the outbreak and pandemic of new diseases is the most important capacity of all countries. Since the pandemic is not a regular occurrence, medicines, vaccines and PPE are typically not available at the outset.

Thus, knowledge and understanding and awareness of self-protection is very important to all people of all countries. In this connection, HC plays a pivotal role in prevention and readiness to cope with and overcome the outbreak and epidemic or pandemic of such emerging diseases. Therefore, HC of the people must be developed to equip them with competencies to be able to act appropriately and in a timely manner in order to face and cope with the outbreak and epidemic or pandemic of COVID-19 and future emerging diseases safely and effectively.

It is also essential for the readiness of the people to face, manage and overcome the outbreak, epidemic or pandemic of any emerging diseases in the future. To build human capacity or competency of Thai people in HC, several research studies in various dimensions are necessary for guiding decision making at the policy and practical levels. A research study to develop a health consciousness development model (HCDM) for overcoming and living in the new normal of post-COVID-19 is needed. This study would fill the knowledge gap caused by the lack of research studies in this area and could be used as a basis for constructing policy and practical guidelines and decisions.

### **Literature Review**

#### **Health Consciousness.**

According to Iversen and Kraft (2006, p. 602), HC is “the tendency to focus attention on one’s health”. More recently, Hong (2011, online) explained that it is an orientation of a person towards their overall health. It is comprised of three elements of self-health awareness, personal responsibility and health motivation. Based on these definitions, HC may be conceptualized as the tendency to focus attention on an individual’s overall health. Based on previous research, Hu (2013, online) proposed and tested eight underlying dimensions of HC, including health self-consciousness, health value, health information seeking, health responsibility, health motivation, health knowledge, physical health orientation, and mental health orientation. It was found that HC predicts an individual’s wellness and that individual’s healthiness can be developed by increasing the HC of the individual. These dimensions could be used as a basis for designing a model and analyzing the data in this study.

#### **Related Research Studies.**

Previous research studies on health consciousness were mostly related to marketing (Hoque, Alam, & Nahid, 2018, online; Jindabot, 2015, p. 259) and healthy foods. Most studies aimed to measure or test and validate the existing theories (Espinosa & Kadić-Maglajlić, 2018, online; Tamornpark et al., 2020, pp. 25-30). Some studies related to developing a scale for measuring of HCDM were also conducted (Hong, 2011, online; Hu, 2013, online). These studies provided knowledge and information mostly on how to use HC for marketing of healthy foods and products, and for health promotion. More study is required for developing HC for prevention of emerging diseases. In the area of emerging diseases, including COVID-19, previous studies were

mostly directly involved with the emerging diseases, such as developing vaccines, diagnosing, testing and treatment of diseases (Mullard, 2020, pp. 1245-1246; Namwat et al., 2020, pp. 33-37). Various studies provided valuable knowledge on how to deal with the existing diseases and a certain level of pandemic diseases. A preventive measure for both the short and long term is essential. This study is unique in that it aims to develop an HC model to allow Thailand to cope with and prevent the pandemic of emerging diseases during and after the recession of the pandemic of COVID-19.

### **Research Questions**

1. What health consciousness strategies are applied by participants in coping with the COVID-19 pandemic?
2. How could the health consciousness strategies as perceived by participants be applied in order to prevent the emerging diseases during and post COVID-19 pandemic?

### **RESEARCH OBJECTIVES**

1. To study the health consciousness strategies that were applied by participants to cope with the COVID-19 pandemic.
2. To study how could the health consciousness strategies as perceived by participants be applied in order to prevent the emerging diseases during and post COVID-19 pandemic.
3. To propose a model for Thailand for the development of health consciousness to prevent the emerging diseases during and post COVID-19 pandemic.

### **RESEARCH METHODOLOGY**

#### **Research Design.**

This research study employed a qualitative research methodology. The objectives of the research were to study the HC strategies that were applied by participants to cope with the pandemic and how could the HC strategies as perceived by participants be applied in order to prevent the emerging diseases during and post COVID-19 pandemic. Based on the results of the study, a model for development of health consciousness related to the prevention of emerging diseases for Thailand was developed. Therefore, a constructivist paradigm was chosen to guide this qualitative study (Creswell & Plano Clark, 2018, pp. 36-38).

#### **Research Methodology.**

Participants as the key informants were Thai people who available for providing the data. The key informants were selected using purposeful sampling technique (Creswell & Plano Clark, 2018, p.176). According to Creswell and Plano Clark (2018 pp. 239-240) stated that the acquisition of the qualitative data was not quantified. If the saturation data were found, the data collection

could be stopped. Data were collected from 60 key informants because of situated data, via telephone interviews and the communication between the researchers and the key informants was via the LINE Application. An interview guide, developed according to the processes provided by Joungrakul et al. (2013, p. 140) and Maykut and Morehouse (1994, p. 84), was used in conducting an interview with each key informant. A qualitatively directed content analysis, as proposed by Hsieh and Shannon (2005, p. 1277), was applied in analyzing the data.

## RESEARCH RESULTS

### Key Informants Profiles.

An analysis of key informants' profiles revealed that the majority of them or 83% (50 persons) were female, 75% (45 persons) were aged between 30 and 40, 33% (20 persons) held a doctoral degree and 50% (30 persons) were university faculty members.

### Findings.

Based on qualitatively directed content analysis, two themes were identified. The themes and categories within each theme are presented in Table 1.

**Table 1** Themes and Categories Derived from Data Analysis

| Themes                                      | Categories  |
|---|---|
| Health consciousness development strategy   | <ol style="list-style-type: none"> <li>1) Self-Disciplined and Personal Responsibility with three subcategories of Personal Care Behavior, Personal Care Attitude, Personal Care Values.</li> <li>2) Health Information and Communication</li> <li>3) Personal Protective Equipment</li> <li>4) Social Health Consciousness Norms</li> <li>5) Health Policy Development and Implementation</li> <li>6) Conducive Health Environment</li> <li>7) Health Consciousness Recognition</li> <li>8) Health Consciousness Leadership</li> <li>9) National Health Cultural Values</li> </ol> |
| Context of health consciousness development | <ol style="list-style-type: none"> <li>1) Individual level</li> <li>2) Family level</li> <li>3) Community level</li> <li>4) Society level</li> <li>5) National level</li> <li>6) Regional level</li> <li>7) Global level</li> </ol>   |

Eight categories of the theme of “Health consciousness development strategy” were identified; 1) Self-discipline, 2) Lead by example, 3) Community norms, 4) Health consciousness policy, 5) Conducive environment, 6) Strict policy enforcement, 7) Reward and punishment, and 8) National cultural values. One additional category and three sub-categories emerged and some categories were either merged or renamed. The new list of the final nine categories with subcategories of this theme are displayed in Table 1. At the same time five categories were established in advance for the theme of “Context of health consciousness development” and two more categories of “Regional level” and “Global level” were emerged and added during the data analysis process. The new list of the final seven categories of this theme are indicated in Table 1.

### A Health Consciousness Development Model for Thailand During and Post COVID-19.

Based on the findings of this study, it was concluded that HC is one of the most important factors for prevention and reaction to the emerging diseases properly and effectively. In order to do so the HC must be cultivated at different levels, including individual, family, community, society, national, regional and global levels. Based on the findings of this study, together with the results presented in the review of literature and to respond to the third objective of this study, a HCDM for Thailand during and post COVID-19 is proposed and illustrated in Figure 1 below:



**Figure 1** A Health Consciousness Development Model for Thailand During and Post COVID-19.

As illustrated in Figure 1, the proposed model is comprised of two major components: HC development strategies and the context of implementation of HC development strategies. In

the first component, nine HC development strategies drawn from the nine categories and three subcategories, as shown in Table 1, are proposed for implementation. The second component provides seven levels of implementation of the HC development strategies, ranging from the individual to global levels in order to prevent emerging diseases during and post COVID-19.

## DISCUSSION

The discussion in this paper will correspond to the three objectives of this study.

### **Objective One:**

Nine strategies have been identified in this study and will now be discussed. 1) Self-Disciplined and Personal Responsibility (SPR). In order for HC to exist and to be sustained, SPR must be instilled in people. According to Exogenesis (2017, online) was argued that individuals who are self-disciplined are self-responsible and extend their responsibility to be responsible for others. Self-discipline is derived from personal values that lead to personal attitudes and personal behaviors that result in such individuals being responsible for their own personal health care and caring for others' health. Thus, to develop HC in people, it is essential to develop personal health care values and positive and preventive attitudes towards personal health care in order to bring about desirable health care behaviors that contribute to healthy, self-disciplined persons in society. 2) Health Information and Communication (HIC). Information creates data that lead to knowledge and awareness of health conditions and disease situations. Health information must be available and communicated to the public at all times, so that people can use it for appropriate decision making in terms of alertness, coping and preventing outbreak of the diseases. Therefore, HIC is one of the most important factors for developing health consciousness in people. 3) Personal Protective Equipment (PPE). PPE must be available for people at all times. Sufficient stock piles of PPE must be ensured. Proper instructions and information must be made to the public for appropriate use of PPE. 4) Social Health Consciousness Norms (SHN). A person's norms is a factor that an individual uses to judge what is right or wrong. It usually accompanies values which an individual uses for judging what is good or bad. Social norms guide social behaviors. Norms exist in folkways, morals and laws. They are also sanctioned by society and can be created through the socialization process. SHN contribute to the existence and sustainability of HC in society. 5) Health Policy Development and Implementation (HPI). Policy is a set of guidelines for decision making and practice. HPI, through the participation of stakeholder groups in society, could be used as a basis for establishing health rules and regulations for the community and society. Rules, regulations and laws related to health and diseases should be enforced strictly and equitably in society, without discrimination against minority groups. 6) Conducive Health Environment (CHE). The existence of HC is largely dependent on CHE. Appropriate CHE at all levels must be created, maintained and enhanced for people to behave appropriately, according to social norms, rules, regulations and laws 7) Health Consciousness Recognition (HCR).

Rewards and recognition of outstanding performance and achievements in HC should be awarded at all levels. HCR supports the existence and sustainability of HC in the society. 8) Health Consciousness Leadership (HCL). Creating, enhancing and sustaining HC in society requires strong HCL at all levels. Leaders must lead by example. The saying, “Do as I say and don’t do as I do”, cannot be praised. 9) National Health Cultural Values (NCV). HC related values at the national level is essential for creating, enhancing and sustaining HC at the national level. Appropriate NCV must be created and implemented continuously.

### **Objective Two :**

The discussion of this objective will focus on how each strategy may be implemented at each level, as identified in Table 1. Each strategy impacts the development of HC in different ways and at different levels. 1) Individual Level. The ultimate goal at this level is to have a HC member of society who has individual Self-Disciplined and Personal Responsibility and care for personal health and the health of others. For children at a young age, parents and school play key roles. CHE, such as cleanliness of the house, kitchen and kitchenware, dining room, living room, bedroom, toilet and bathroom, should be created. HIC should be available and communicated *via* various channels regularly and continuously. PPE should be available and used properly. HCL should be exercised through leading by example and HCR are to be implemented through reward and occasionally punishment by parents, teachers and other related individuals. 2) Family Level. HC family is an essential part of HC society. All strategies applied at the individual level apply to the HC development at this level. In addition, SHN and HCR, such as reward and punishment according to community norms, government rules and regulations, may also be applied at the family level. At the same time, VHV could play a pivotal role in the development of health consciousness at this level. They could provide health information, giving advice and assistance in appropriate health behaviors and the use of PPE. 3) Community Level. HC community usually results from HC at the family level. Similar strategies applied to the first two levels could apply at this level. In addition, HPI could be implemented at this level, such as the policy on clean water or infectious waste management in the community could help enhance the health of community members. At this level Sub-district health centers and district or community hospitals could play key roles similar to VHV, in addition to the regular primary health care and treatment functions. 4) Society Level. HC society could be built up through applying all identified strategies, as discussed in the three previous levels. Hospitals at Regional or provincial level could play very important roles in developing population HC in society. Promotion of NCV through various programs could help strengthen HC of the population in the society. 5) National Level. At this level all strategies identified should be applied *via* several government policies. The Ministry of Public Health plays a pivotal role in developing the HC of people nationwide. HPI, together with creating CHE and establishing HCR programs through various HCL initiatives, could help strengthen national HC. Promotion of NCV would help sustain the population and national HC. 6) Regional level: Thailand is a member of ASEAN and close

regional cooperation in health consciousness development *via* various means among the ASEAN member countries may be promoted and enhanced. Regional cooperation, including technical and financial cooperation, including sharing of available resources, is necessary for creating, enhancing and sustaining HC at the regional level (Kipgen & Bansal, 2020, online). 7) Global level: Thailand is a member of WHO. International cooperation in the areas of health and HC development, including ways of living in the new normal after the pandemic of COVID-19 *via* various means could be promoted and enhanced. Similar cooperation at the regional level should be established and enhanced. Cooperation with directed and related health international organizations, such as WHO should also be enhanced (Hasina, 2020, online; Izmestiev & Klingebiel, 2020, online).

### **Objective Three :**

In responding to the third objective of this research a HCDM for Thailand during and post COVID-19 was developed, as illustrated in Figure 2. The model is divided into two parts. The first part is the HC strategies to be used for developing the HCDM. There are nine strategies proposed, as discussed above. The second part is the HC contexts, where HC strategies are to be implemented. There are seven levels for implementation in order to develop the HC in the model, as discussed above. 1) Health consciousness strategies: Strategies are very important for the success of strategic management, especially in healthcare organizations (Speziale, 2015, pp. A3-A7). Developing HC is a process similar to SM. As suggested by Koseoglu et al. (2015, p. 27), SM could be applied in the health care management area. The strategies for developing HC in the proposed model derived from the key informants of this research study. These strategies could be applied in the process of HC development in the SM process. In order to be able to measure the results objectively, a model of input-process-output (MacCuspie & Drake, 2014, p. 17) should be applied. 2) Health consciousness contexts: The COVID-19 pandemic spread very rapidly from an individual to family, community, society, countries, regions and ultimately across the world. This phenomenon could apply similarly to emerging diseases that might occur at any time in the future. Thus, dealing with the pandemic must be handled simultaneously in a synchronized manner at all levels. Much attention of previous studies has been given to testing and confirming the existing theories (Espinosa & Kadić-Maglajić, 2018, online; Tamornpark et al., 2020, p. 25-30). They are also concentrating directly on the immediate problems of how to deal with the emerging diseases (Mullard, 2020, pp. 1245-1246; Namwat et al., 2020, pp. 33-37). However, some of the previous studies dealt with a holistic approach in specific areas (Andrade et al., 2009, online; Fiandaca et al., 2017, online). In contrast, this study identified both short and long term preventive measures and proposed a model for developing HC at all levels, beginning with the individual upwards to the global level. In addition, it is a holistic approach model similar to the concepts of a holistic model of health and the methods of its evaluation, proposed by Roman (2018, p. 48), even though it is different in its dimensions and contexts. The scale for measuring HC, developed by Hong (2011, online) and Hu (2013, online), could support the effective implementation of this new proposed HC development model.

## SUGGESTIONS

### **Theoretical Suggestions.**

Based on the findings of this study, a model for developing HC for preventing new epidemic diseases after the COVID-19 pandemic was developed. The model derived from the analysis of data collected from a sample of 60 Thai key informants. Data obtained are related to perception and practice of self-protection during the COVID-19 pandemic and recommendations are proposed for responding to and preventing new epidemic diseases after the recession caused by the COVID-19 pandemic. Therefore, it could be considered a unique Thai model or theory, as it was created based on the knowledge and local environment and practices, including Thai cultural values.

### **Policy Suggestions.**

This model could be used as a basis for formulating public policy in several areas, especially in education, medicine and public health. The HC material could be incorporated into programs of education and training at all levels. A HC development center could be established to be responsible for the HC of Thai people. A current organization responsible for epidemic diseases prevention should be strengthened in terms of providing a budget for sufficient personnel and equipment, including up-to-date technologies.

### **Practical Suggestions.**

This model could be applied in both the public and private sectors at all levels, especially at the individual up to the national levels. All nine strategies proposed in this model should be applied via several activities, such as education and training using both traditional and new technologies.

### **Future Research Suggestions.**

The pandemic COVID-19 affected the daily lives of people around the world in almost all dimensions. It created a new normal in various areas. Testing and verifying this proposed model could help in validating and generalizing this model in Thailand and other societies. Research in various new normal topics, such as occupational health and safety related to new working and living conditions, for example working from home, should be conducted in order to understand and create healthy working and living conditions for the people.

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