Medical pluralism for community health in Thammasen sub-district, Photharam district, Ratchaburi province, Thailand

Wipanun Muangsakul, Sunti Srisuantang and Ravee Sajjasophon
Faculty of Education and Development Sciences, Kasetsart University, Nakhon Pathom, Thailand

Abstract

Purpose – When reviewing Community Health Development, it is necessary to understand the community context, including community health and details of medical pluralism (MP). The purpose of this paper is to correlate and predict between community health and related factors and delineate phenomenon of MP in Thammasen, Ratchaburi province, Thailand.

Design/methodology/approach – A mixed-methods sequential explanatory design was applied in this research. The quantitative survey was conducted by using an interview questionnaire. The 400 respondents were selected by simple random sampling from 11 villages. For the qualitative study, in-depth interviews were conducted with 37 key informants from selected health professionals, folk healers and local leaders.

Findings – The respondents were 56.5 percent female with a mean age of 53.8 years. The factors relating to community health included: health care behaviors, perceived health status, attitudes toward health care and access to health services. Considering the four predictive variables as a group revealed a 26.2 percent variation in community health. The phenomenon of MP was covered by the following three main aspects: self-health care (SHC)—healthy people pay attention to self-care and used herbal remedies to reduce early symptoms; folk medicine (FM)—some folk healers provide holistic healing, use herbal remedies and transfer knowledge to people who are interested and professional medicine (PM)—some health professionals adopt the concept of integrated medicines such as recommending that patients practice SHC and promote the use of Thai traditional medicine (TTM) and complementary and alternative medicine (CAM).

Originality/value – Health professionals, folk healers and local leaders should provide effective action domains that focus on the following four factors of community health: effective health care behavior, concern for health status, positive attitudes toward health care and accessibility to health services. Regarding MP, integrated medical and health care models should be developed to link SHC, FM and PM (including TTM/CAM).

Keywords Well-being, Community health, Integrated care, Medical pluralism, Health factors

Paper type Research paper

Introduction

Health systems around the world are facing the effects of an aging population, increased levels of chronic illness and escalating health care costs[1]. The cause of health problems includes changes in the environment, personal health behaviors and health service systems. In particular, chronic diseases are likely to increase in both number and severity[2]. As a result, mortality rates due to chronic diseases are rising[3] in addition to the increased number of sick and suffering and the impact on families due to illness[4].

Thailand has been developing medical and public health services for a while. In 2002, Thailand passed the National Health Security Act offering Thai people convenient access to Universal Health Care Services (UHCS)[5]. However, the health problems of Thai people are not different from the global situation in which health problems are viewed as consequences of social determinants[6] in today's pluralistic society. This situation influenced the 12th National Health Development Plan (2017–2021) and the strategy of the Department of Thai Traditional and Alternative Medicine, that focused on the development of Thai traditional medicine (TTM) and medical integration[7, 8]. Consistent with Kleinman's concept, "Most health care systems contain three social arenas: 1) The popular arena, consisting of the family context of sickness and care, social networks and community activities; 2) The professional arena, consisting of professional scientific medicine and professional indigenous healing specialists; 3) The folk arena, including non-professional healing specialists sometimes classified by ethnographers into sacred and secular groups[9]." In Thailand, Chuengsatiansup has described MP as the existence of a culturally diverse society applying diverse frames for the phenomenon of health[10]. Therefore, understanding problems, health-related factors and reflections of the local phenomenon of MP in the community is important today.

In the past, research on community health systems were mostly limited to studying the factors related to health and social determinants of health or disease[11, 12]. Nevertheless, there were no studies of the health factors linked to MP. Therefore, solving health problems requires an understanding of the community context reflecting MP. Furthermore, the factors related to community health and contributing to the creation of a healthy community need to be identified. The aim of this study is to correlate and predict between community health and related factors and delineate phenomenon of MP in Thammasen sub-district.

Definitions
Health-related factors are health factors that influence individual lifestyle as a determinant of health, including knowledge about health, perceived health status, motivation for health care, attitude toward health care, health beliefs, values, health care behaviors, usage of health services, participation in health activities, usage of local health care resources, social support for health care and access to health services.

Community health refers to the self-health status report of the respondents within the community in balance with other significant factors including the physical, mental, emotional, social, intellectual and spiritual dimensions.

Medical pluralism (MP) refers to the type of medical management in a community, which consists of SHC, folk medicine (FM) and professional medicine (PM).

Methods
The study applied a mixed-methods sequential explanatory design[13]. It was approved by the Committee for Research Ethics (Social Sciences) of the Mahidol University Institutional Review Board (No. MU-IRB 2016/311.0908).

Phase 1: quantitative study for describing related factors and predicting the community health of Thammasen
Study design. This phase used a cross-sectional design conducted from November to December 2016 for the purpose of describing related factors and predicting the community health in a sub-district of Thailand.

Study setting. The study setting comprised of 11 villages in Thammasen sub-district, Photharam district, Ratchaburi province, Thailand.

The purposive selection was based on the following factors: management of diverse community health systems; availability of rural areas located far from urban areas; existence of the practice to plant and use herbal remedies for health care and a district hospital that adopted a policy for integrating medicine and community participation.

Study population. The study population was composed of Thammasen residents aged 18 years or older.

Study sample. Using Yamane's[14] formula to achieve findings at a 0.05 confidence interval, the sample could not be less than 371. An additional 29 people were added to account for any possible errors in the process of the study, resulting in a total of 400 respondents. The respondents were required to meet the following inclusion criteria: Thai persons aged 18 years or older; current residence in Thammasen; and understanding of the Thai language. Exclusion criteria included: non-consenting respondents; inability to understand the Thai language.

Research instrument. The questionnaire was validated before use by five public health and health system experts through the Item Objective Congruence Index[15]. The reliability of the questionnaire was determined by conducting a pilot study on 30 persons from Khao Cha Ngum Sub-district, a neighboring sub-district of Thammasen.

The questionnaire in this phase comprised of the following three parts.

Part 1—characteristics. Focused on personal information and health-seeking behaviors.

Part 2—health factors. Likert scales of five points were used to represent the scores for the health factors section[16]. Scores of 1, 2, 3, 4 and 5 were given to "Never," "Rarely," "Sometimes," "Often" and "Very Often," respectively. For negatively phrased statements, the scores were re-coded. This section contained perceived health status, motivation for health care, attitudes toward health care, health beliefs, health values, health care behaviors, usage of health services, social support for health care and access to health services. In addition, "yes," "no" questions were used for knowledge about health, participation in health activities and usage of local health care resources. The reliability (Cronbach's α) for this part was 0.91.

Part 3—community health. The Perceived Wellness Survey Metric (PWS) was used to measure community health or well-being based on the concept of Adams, Bezner and Steinhardt[17]. This metric has six elements of well-being as follows: physical; emotional; social; intellectual; spiritual and mental. The PWS metric consists of 36 questions, and responses to items were rated on a six-point Likert-type scale in which the following response anchors were used as poles for the scale: "Very Strongly Disagree $= 1$" and "Very Strongly Agree $= 6$." No descriptors over the numbers 2 through 5 were used. For negatively phrased statements, the scores were re-coded. The reliability (Cronbach's α) for this part was 0.90.

Data collection. Following approval from the Ethics Review Committee, the researcher contacted the community leaders requesting permission to collect data from the respondents. All respondents received the objective of this study.

Data analysis. Quantitative data were analyzed by using descriptive and analytic statistics as follows: descriptive statistics: frequency, percentage, mean and standard deviation; Analytic statistics: Pearson's Correlation Coefficient and stepwise multiple regression analysis.

Phase 2: qualitative study analysis of health-related factors and phenomenon of medical pluralism in Thammasen

Sources of data. Selection of key informants. In-depth interviews were conducted with key informants consisting of the following three groups: six health professionals (two physicians, one registered nurse and three public health officers who provided

their perceptions of MP, factors related to health and health activities); a total of 16 folk healers who provided their perceptions of MP, factors related to health and knowledge about traditional medicine and a total of 15 local leaders aged 35 years or older who provided information about self-health care (SHC), factors related to health and health activities.

Research instrument. The research instruments for this phase included the semi-structured questionnaire, field notes, audio recordings and a camera.

Procedures. The researcher contacted gatekeepers to lead the researcher to key informants. Next, the researcher provided information about the study and the rights of the key informants. Those who were willing to participate in the study were asked to sign an informed consent form. The researcher collected the documentary reviews and interviewed key informants by using semi-structured interviews, audio recordings and observing the community context with photographs.

Data analysis. As recommended by Creswell[18], the raw data were organized and prepared for analysis. First, the interviews were transcribed. Then all the data were read and viewed. The researcher reflected on its overall meaning and data grouping associations. The data were also verified by using triangulation techniques from different participants regarding information about health history including health professionals, folk healers and local leaders. Finally, the researcher interpreted the results, returned the results to key informants for consideration and drew conclusions.

Results
General characteristics
The respondents in this study comprised 400 people. Most of the respondents were women (56.5 percent) ranging in age from 41 to 60 years (41.5 percent, $\overline{X} = 53.8$, SD 16.8). A total of 81.0 percent of the respondents were married and 69.5 percent were educated to primary level. In total, 34.8 percent worked as general laborers, while 56.2 percent ($\overline{X} = 4,998.2$, SD 6.8) had average incomes ranging from 3,000 to 10,000 per month. A total of 48.00 percent had an underlying disease (mostly hypertension) and 93.3 percent were eligible for UHCS services.

Health factors
The respondents had a high level of knowledge about health (cognitive domain) ($\overline{X} = 17.0$, SD 3.1) with high motivation for health care, attitude toward health care and health beliefs (affective domain) ($\overline{X} = 75.9$, SD 7.5, $\overline{X} = 76.5$, SD 7.1, and $\overline{X} = 45.3$, SD 6.4, respectively). The action domain included social support for health care and access to health services ($\overline{X} = 44.7$, SD 5.8 and $\overline{X} = 83.3$, SD 7.1, respectively). At last, community health was at a medium level ($\overline{X} = 151.5$, SD 14.3) (see Table I).

Correlations between health factors and community health
The test of the correlations between health factors and community health with significance at $p < 0.01$ identified ten variables. The health factors that had the strongest correlations were health care behaviors, attitude toward health care, motivation for health care, health values, perceived health status, social support for health care, health beliefs, access to health services, participation in health activities and usage of local health care resources ($r = 0.386$, 0.338, 0.314, 0.311, 0.296, 0.253, 0.204, 0.203, 0.152 and 0.143, respectively). At the same time, knowledge about health and usage of health services did not have a statistically significant correlation with community health ($r = 0.038$ and 0.090) (Table I).

Health factors	Min.	Max.	Mean	SD	Meaning	Correlation coefficient
Cognitive domain						
Knowledge about health (X_1)	9	24	17.0	3.1	High	−0.038
Affective domain						
Perceived health status (X_2)	40	71	57.2	4.5	Medium	0.296**
Motivation for health care (X_3)	24	96	75.9	7.5	High	0.314**
Attitude toward health care (X_4)	46	100	76.5	7.1	High	0.338**
Health beliefs (X_5)	28	60	45.3	6.4	High	0.204**
Health values (X_6)	36	94	64.9	9.4	Medium	0.311**
Action domain						
Health care behaviors (X_7)	49	90	68.6	6.8	Medium	0.386**
Usage of health services (X_8)	16	55	33.4	8.3	Medium	0.090
Participation in health activities (X_9)	0	10	5.4	2.4	Medium	0.152**
Usage of local health care resources (X_{10})	3	49	25.6	11.6	Medium	0.143**
Social support for health care (X_{11})	14	60	44.7	5.8	High	0.253**
Access to health services (X_{12})	60	100	83.3	7.1	High	0.203**
Community health (Y)	102	187	151.5	14.3	Medium	

Notes: $n = 400$. *$p < 0.05$; **$p < 0.01$

Table I.
All variables
categorized by health
factors and correlation
significance with
community health

Medical pluralism and community health of Thammasen residents
Factors related to community health
Stepwise multiple regression analysis was used to predict variable ratings. According to the findings, four variables were able to predict community health. These included health care behaviors, perceived health status and attitudes toward health care (i.e. able to predict 15.3, 5.4 and 4.6 percent of the variance, respectively) ($p < 0.01$). Access to health services were also predictive at 0.9 percent ($p < 0.05$). Considering the four predictive variables as a group explained 26.2 percent of the variation in community health as shown in Table II.

With reference to Table II, the raw and standard scores can be written as the equation of prediction below.

Equation of prediction in raw score form:

$$Y = 2.880 + 0.320(X_7) + 0.363(X_2) + 0.268(X_4) + 0.127(X_{12}).$$

In the first phase, the researcher found certain factors that correlated with community health. In the second phase, the related factors and phenomenon of MP in Thammasen were analyzed.

Variables	Adjust R^2	b	SE_b	β	t	p-value
Health care behaviors (X_7)	0.153	0.320	0.062	0.256	5.149	0.000**
Perceived health status (X_2)	0.207	0.363	0.056	0.282	6.448	0.000**
Attitude toward health care (X_4)	0.253	0.268	0.062	0.223	4.314	0.000**
Access to health services (X_{12})	0.262	0.127	0.052	0.111	2.438	0.015*

Constant (a) $= 2.880$; $SE_{est} = 0.305$; $R = 0.519$; $R^2 = 0.270$; adjust $R^2 = 0.262$; $F = 36.459$

Notes: *$p < 0.05$; **$p < 0.01$

Table II.
Results of multiple
regression analysis
applying community
health as a variable

Factors related to community health classified by medical pluralism in Thammasen
Phenomenon of medical pluralism in Thammasen. Health in Thammasen was managed by a MP system. The participants actively practiced SHC systems as a primary goal toward achieving sound health (98.8 percent), followed by PM (98.3 percent) and FM (38.5 percent). The phenomenon of MP in community health is shown in Table III.

The health-related factors in community health were found to include four variables that explain the phenomenon of MP covering three main aspects as follows in Table IV.

Limitations
The limitations of this study are the variables of knowledge regarding nutrition, exercise, stress reduction, risk behavior and personal hygiene knowledge dimensions, which does not mean health literacy.

Discussion
The findings of this study point to the following four factors affecting community health behaviors in Thammasen: effective health care behaviors; concern for personal health status; positive attitudes toward health care and accessibility to health services. This study suggests that promoting health care behaviors by creating a perceived health status and good attitudes toward health care are consistent with the findings of previous studies. This indicates that positive attitudes and perceived health status concerning chronic conditions are correlated with health[19]. Equally important

Medical pluralism (More than one answer possible)	n	$\%$	Phenomenon of medical pluralism in community health		
			Potential	Problems	Needs
Self-health care (SHC)	395	98.8	Healthy people do exercise and use natural herbal remedies to reduce early symptoms and get health care knowledge from health professionals	Some people have health care attitudes that are difficult, have risk behaviors and lack time for SHC	People need good health, want to understand the herbs and CAM for health care and want the Health Promoting Hospital to have all TTM services in the community
Professional medicine (PM)	393	98.3	Some health professionals have integrative medicine concepts District hospitals have policy consistent with the Ministry of Public Health for developing TTM and CAM	Some health professionals have negative FM concepts Health professionals do not have folk healers database	Health professionals want to have a folk healer database and promote the use of TTM and CAM together with modern medicine in the community
Folk medicine (FM)	154	38.5	Some folk healers produce, promote use of herbal remedies and provide holistic healing	Most FM knowledge is transferred within families and new generation ignore folk knowledge Folk healers did not record the treatment results	Some folk healers want to transfer the use of herbal knowledge to interested people

Table III.
Phenomenon of medical pluralism in Thammasen

Health-related factors	Self-health care (SHC)	Professional medicine (PM)	Folk medicine (FM)
Health care behaviors (X_7)	Healthy people have self-care behaviors and share self-care information and experiences with neighbors	Health professionals encourage people to perform self-care, promote integrated medicine to advise patients and train people to use herbs for health care	Folk healers readily offer advice to patients
Perceived health status (X_2)	Some people focus on self-care. After, they perceived health status	Health professionals provide annual health check-up for people to be aware of their health status	Folk healers perform treatment of patients and provide advice on self-care
Attitude toward health care (X_4)	Some people have self-care concepts that health care is not difficult, used herbal remedies to reduce early symptoms and believing that herbs are safe Some patients believe that physical therapy and Thai traditional massage (comprehensive rehabilitation) help rehabilitate	Health professionals think raising awareness about health is important and integrative medicine is the solution of public health in the modern era	Folk healers want to help patients relieve suffering (holistic healing)
Access to the health services (X_{12})	Some people think the treatments in the community are convenient. In emergency cases, PM can offer effective treatment	In district hospitals, health professionals provide screening for patients to TTM or CAM	Patients can be treated by folk healers anytime

is the emphasis of promoting social network participation at every level[20]. As argued by several studies, research and development should involve studying knowledge and upgrading skills in FM, TTM and complementary and alternative medicine (CAM) in order to obtain reliable health information leading to the development of health service and product efficacy for patient safety geared toward users' demand[21, 22]. Moreover, reports have suggested that integrated care health cover should promote disease prevention, early treatment and comprehensive rehabilitation by holistic treatment[23]. In addition, MP integrated medicines and health care models should be developed to link SHC, FM and PM in the health system for convenient access to health services[22]. This finding is consistent with previous research findings. Thus, MP in achieving the community health of Thammasen is achievable. In particular, the participants in the community need to understand health problems and be ready to solve those problems. Next, in view of the foregoing discussion, the authors propose the management of community health based on the results in this study as detailed in Figure 1.

Conclusion
The following four factors were significantly related to improving community health: health care behaviors, perceived health status, attitude toward health care and access to health services. Based on the results, the recommendations for Thailand's health policymakers should be as follows: focus on health care behaviors, concern about health status, positive attitudes toward health care and accessibility to health services; develop knowledge and skills focused on linking FM, TTM and CAM to provide empirical evidence of safety, efficacy and demands from users; and integrated medicine and health care should be re-designed from hospital to home and vice versa.
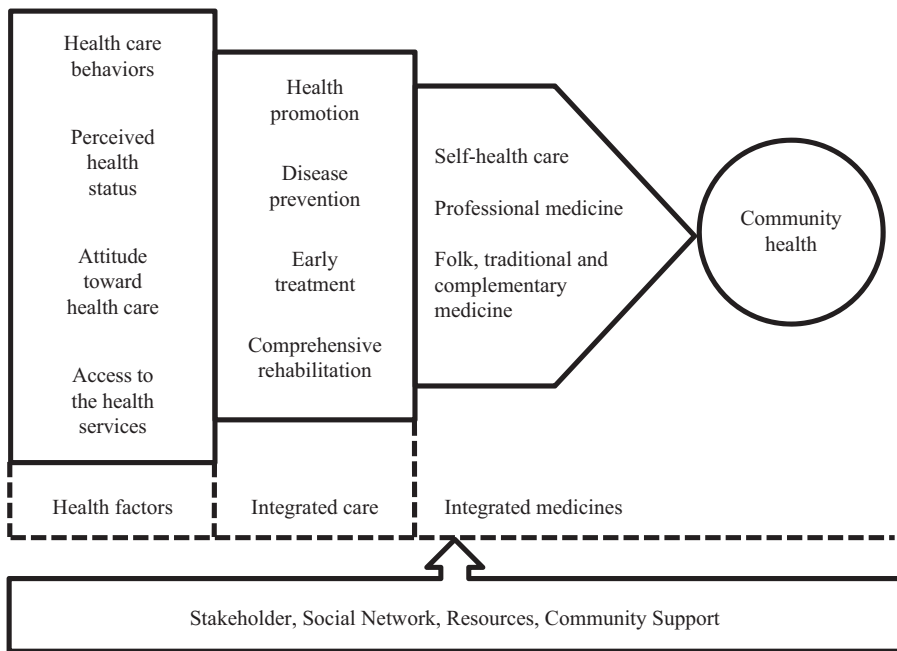
Figure 1.
Integration of
medical pluralism

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Corresponding author
Sunti Srisuantang can be contacted at: sats@ku.ac.th