Original Research

Influencing Factors Towards COVID-19 Preventive Practices of Health Massage Entrepreneurs for Establishment Development in Phetchabun Province, Thailand

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Abstract

Health massage industry was adversely affected by COVID-19 crisis. Owner and operators changed their business procedures into new normal operations by adapting protective measures and practices in their venues. Thus, this study purposed to examine influencing factors towards COVID-19 preventive practices of health massage entrepreneurs in Phetchabun Province for establishment development and to evaluate relationships among knowledge, attitude, and practice. This cross-sectional survey was carried out from January – March, 2022 involving 76 health massage entrepreneurs registered and reopened business in early 2022. The participants were recruited by purposive sampling technique. Data was collected through a self-administrated questionnaire and a "Self-Assessment for Health Establishments to Prevent and Control Coronavirus Disease 2019 (COVID-19)". Descriptive statistics, one-way analysis of variance (ANOVA), and Pearson correlation coefficient were applied to analyze data. Findings revealed different educational attainments and monthly incomes had significant relationships with COVID-19 preventive practices. The analysis showed the entrepreneurs held diploma / higher vocational certificate and earned monthly incomes 186-258 USDhighly demonstrated protective practices. There were found positive correlation of knowledge and practice (r=0.310, p=0.006) and between attitude and practice (r=0.313, p=0.006). Education on COVID-19 preventive behaviors was suggested to promote via credible multiple platforms and subsequently encourage optimistic attitude and motivate favorable practices.

Keywords: Health Massage Entrepreneurs, Influencing Factors, COVID-19, KAP

Introduction

COVID-19 epidemic significantly has several impacts on worldwide industries, especially business sectors. In Thailand, health massage business have been severely affected by the crisis. Department of Health Service Support (DoHSS), Ministry of Public

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Health, was authorized to control and regulate systemic health services for processing in line with the situation 1formulated a variety of measures and practices to prevent disease and control the spread of COVID-192. As a result, health operators and service providers were required to implement for service standards.This created new opportunities to make additional improvements in order to sustain throughout the COVID-19 outbreak. Many changed their service procedures by accomplishing practices of new normal operations introduced to retain clients' confidence and safety in health with strict sanitization and social distancing maintenance3,4. Clean facilities, proper hygiene, and reducing COVID-19 transmission were highlighted to regain tourist reliance ensuring they were provided in a safe and effective manner at the venues5.

Demographic factors have an important impact on cognitive processes and human behaviors which included several characteristics such as gender, age, marital status, educational attainment, financial level, and occupation. Interaction of different demographic variables contributed to varied experiences and perspectives that shaped individual's identity and actions6. Numerous studies reported connections between demographic attributes and individual behaviors. Religion, educational level, and family income were correlated with knowledge level regarding COVID-197. Income level was associated with attitudes towards COVID-198. Luo,et al. found significant differences in terms of gender and age for COVID-19 preventive behaviors9.

Phetchabun, Thailand is a province in the lower northern region which was divided into of 11 districts. Among of them, 3 districts are town municipality status including Mueang Phetchabun, WichainBuri, and Lok Sak. Throughout the province in June 2011, there were 100 health massage entrepreneurs registered with Phetchabun Provincial Public Health Office and had licenses. In the early 2022, the fourth wave of COVID-19 outbreak, the pandemic was systematically controlled10. It was reported there were 76 entrepreneurs enrolled to operate their business; however, there was not found any entrepreneurs in Nam Nao district.

To the best of our knowledge, no previous studies have been published examining factors towards practices regarding establishment management for COVID-19 prevention in Thailand. Therefore, the authors attempted to investigate the influencing factors towards COVID-19 preventive practices of the health massage entrepreneurs in Phetchabun province for establishment development. At the same time, we explored connections among knowledge, attitude, and practices.

Materials and Methods

Research instruments

A fundamental research instrument was a 60-item questionnaire developed based on "Guidelines to Prevent and Control Coronavirus Disease 2019 (COVID-19) for Spa, Health, and Beauty Massage Establishments" by DoHSS which consisted of 2 sections. The first section gathered demographic characteristics of respondents. The second section was divided into 3 parts: the knowledge part included multiple-choice questions related to government precautionary measures, standard assessment, and staff management. The attitude part composed of 5-point scale questions with respect to experience enrichment and establishment improvement. The practice part contained "Yes" or "No" questions on service procedures, establishment arrangement, and proper cleaning methods. To evaluate validity by asking 5 professionals, Index of Item Objective Congruence was found in range of 0.60-1.00. To assess reliability by a pilot study, the Cronbach's Alpha was shown 0.741, 0.844, 0.720.

Moreover, the study used a "Self-Assessment for Health Establishments to Prevent and Control Coronavirus Disease 2019 (COVID-19)" issued by DoHSS to assess establishment examination scores consisting of 2 sections. The first section obtained background information of entrepreneurs, establishment location, and types of health establishment. Another section included 37 checklist questions about COVID-19 preventive measures, practices, and service procedures.

Participants

The data were collected from 76 health massage entrepreneurs, registered with the Phetchabun Provincial Public Health Office and reopened business in early 2022 with purposive sampling technique. The study was approved by approval ethical review committee for human research, phetchabun provincial public health office 2/2564, Project Number: Sor Sor Chor.2/64-14-25/06/64.

Research design and setting

This cross-sectional study was carried out from January – March, 2022. The printed questionnaire was distributed personally to investigate knowledge, attitude, and practice regarding to COVID-19 precautionary measures and practices. Later, public health officers had an establishment inspection to evaluate scores of establishment examination using the self-assessment.

Statistical Analysis

The demographic information was evaluated by descriptive statistics distributed in form of a percentage, frequency, mean, and standard deviation. One-way analysis of variance was applied to examine associations of KAP with demographic variables. Also, relationships among the KAP were tested using Pearson correlation coefficient.

Results

Table 1: demographic factors affecting COVID-19 preventive practices of health massage entrepreneurs in Phetchabun, Thailand

Demographic Characteristics		N (%)	Mean (SD)	F	p-value
Gender	female	68 (89.47%)	11.41 (2.71)	0.008	0.93
	male	8 (10.53%)	11.50 (2.56)		
Marital status	single	23 (30.26%)	11.48 (2.92)	0.138	0.937
	married	35 (46.05%)	11.31 (2.45)		
	divorced	7 (9.21%)	12.00 (2.71)		
	widowed	11 (14.47%)	11.27 (3.13)		
Educational status	elementary	6 (7.89%)	9.50 (1.87)	3.167	0.019*
	middle school	7 (9.21%)	9.28 (2.06)		
	high school / vocational certificate	27 (35.53%)	11.25 (2.58)		
	diploma / higher vocational certificate	16 (21.05%)	12.31 (2.52)		
	Bachelor degree or above	20 (26.32%)	12.25 (2.75)		
Age	25-44 years	22 (28.95%)	11.59 (2.91)	0.875	0.421
	45-59 years	48 (63.16%)	11.18 (2.68)		
	60 years above	6 (7.89%)	12.67 (1.37)		
Monthly income	43-114 USD/month	32 (42.11%)	10.28 (2.56)	9.531	0.001**
	115-185USD/month	28 (36.84%)	11.54 (2.12)		
	186-258 USD/month	16 (21.05%)	13.50 (2.61)		
Establishment area	Mueang Phetchabun	25 (32.89%)	11.12 (2.49)	1.272	0.269
	Lom sak	16 (21.05%)	10.94 (3.07)		
	Khao Kho	3 (3.95%)	11.33 (2.52)		
	Chon Daen	3 (3.95%)	14.00 (3.00)		
	Lom Kao	3 (3.95%)	12.67 (2.08)		
	Nong Phai	7 (9.21%)	11.71 (2.93)		
	Wong Pong	3 (3.95%)	13.33 (2.52)		
	Bueng Sam Phan	7 (9.21%)	12.71 (2.21)		
	Wichian Buri	5 (6.58%)	10.80 (2.68)		
	Sri Thep	4 (5.26%)	9.00 (0.71)		

* $p<0.05$, ** $p<0.01$

As shown in Table 1, 89.47% was female and 10.53% was male. It was found that majority of the participants were married (46.95%), but minority were divorced (9.21%). About 36% of them had high school/vocational certificate education, bachelor degree or above (26.32%), diploma/higher vocational certificate (21.05%), respectively. Approximately 65% of the respondents belonged to age group of 45-59 years and 25-44 years group (28.95%). Nearly a half of them (42.11%) had income 43-114USD/month while around 20% had 186-258 USD/month. With regards to establishment area, there was a high number in Mueang Phetchabun (32.89%), followed by Lom Sak (21.05%) and Nong Phai and Bueng Sam Phan with the same number (9.21%).

The results showed that there were statistically significant differences between COVID-19 preventive practice and different educational status (p=0.019). The participants held diploma / higher vocational certificate (M=12.31) were more prone to a higher practice level compared to these with elementary education (M=9.50). Moreover, significant differences were observed among different monthly income with practice level (p=0.001). The counterparts with the highest monthly income(M=13.59) demonstrated an increased practice level compared to these earnedthe lowest income (M=10.28). In contrast, there were not found significant differences in practices across some demographic variables including gender (p=0.930), marital status (p=0.937), age groups (p=0.421), and establishment location (p=0.269), respectively.

Table 2: Number and percentage of different knowledge, attitude, and practice level concerning COVID-19 prevention

Category	Practice level			Total
	Low	Moderate	High	
Knowledge level				
Low	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Moderate	1 (1.32%)	57 (75.00%)	18 (23.68%)	76 (100.00%)
High	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Attitude level				
Low	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)
Moderate	1 (1.32%)	46 (60.53%)	9 (11.84%)	56 (73.68%)
High	0 (0.00%)	11 (14.47%)	9 (11.84%)	20 (26.32%)
Total	1 (1.32%)	57 (75.00%)	18 (23.68%)	76 (100.00%)

As demonstrated in Table 3, regarding to a moderate knowledge level, three quarters of the participants possessed a moderate practice level while nearly a quarter reported a high practice level. In relation to a moderate attitude level, the majority had a moderate practice level followed by 11.84% in a high practice level. In term of a high attitude level, 14.47% showed a moderate practice level while 11.84% reported a high practice level. In other words, the most health massage entrepreneurs had reasonable practice level concerning COVID-19 prevention as well as good knowledge and optimistic attitude.

Table 3: Correlations among knowledge, attitude, and practice towards COVID-19 prevention management

	Knowledge	Attitude	Practice
Knowledge	1		
Attitude	0.085 (p=0.463)	1	
Practice	0.310**	0.313**	1

** p<0.01

Correlational analysis revealed that there were weak positive relationships of knowledge and practice (r=0.310, p=0.006) and between attitude and practice (r=0.313, p=0.006) in relation to establishment management with COVID-19 prevention.

Table 4: Associations of different practice levels and establishment examination scores

Practice level	N (%)	Mean (SD)	F	p-value
Low	1 (1.32%)	15.00 (0.00)	11.44	0.001**
Moderate	57 (75.00%)	21.36 (3.01)		
High	18 (23.68%)	24.50 (2.18)		

** p<0.01

As presented in Table 5, the results shown that there were found significant differences between practice level and different scores of establishment examination (p=0.001). The participants with a high practice level highly demonstrated examination scores compared to others (M=24.50) while moderate level subjects had slightly lower scores than the higher group. These findings were presumed that the health massage entrepreneurs had pleasant scores after implementing COVID-19 preventive practices.

Discussion

The current study examined influencing factors towards COVID-19 preventive practices of health massage entrepreneurs for establishment development. The results revealed a significant correlation between educational status and practice level which were in line with a study performed with adult Bangladeshi citizens[11]. This study the entrepreneurs with diploma / higher vocational certificate highly demonstrated practices than other qualifications. A possible explanation might be because education in diploma / higher vocational level focuses more on specialized knowledge and skills in a particular area, people are more likely to adopt precautionary measures. In addition, the results presented the counterparts held bachelor degree or above slightly had lower practices than the highest group. These asserted Margolis'sstudy indicated that more-educated participants were consistently active to change health behaviors and had better health[12].

Additionally, the study showed levels of monthly income have a significant association with preventive practices. The participants with monthly incomes between 186-258 USD presented a higher degree of engagement towards precaution practices compared to others. These results were in accordance with a study conducted among Ghanaian population[8]. This might be explained by the fact that the entrepreneurs with higher monthly incomes have a greater ability to afford essential materials for COVID-19 prevention such as face shields, head covers, sanitizers, and disinfectants/solutions. On the other hands, individuals having lower incomes may encounter extra payments to adopt such practices. Contrarily, our data was inconsistent with Bautista's study evidenced that practice scores were not statistically different in relation to monthly incomes[13].

However, the present study was not found significant association of gender and age with practices regarding COVID-19 prevention which lined up with Bukata, et al.[14]. Our male and female subjects were likely to have moderate preventive practices with similar proportions (M=11.50, M=11.41). A possible reason behind this may be having smartphones which it nowadays was supposed as a vital source to search for the latest COVID-19-related information and up-to-date guidelines as well as personalized online learning. Mobile learning increasingly promoted COVID-19 knowledge and awareness, it also facilitated people to adopt more helpful protective ways[15]. In this study the elders (60years above) were more inclined to adopt precautionary practices (M=12.67). This pointed out that elderly group was more aware of how COVID-19 infection affected older people; therefore; they prioritize health-conscious behaviors with COVID-19 prevention measures. This was parallel with a study in Spain, those aged 61 years and older showed a higher frequency of preventive practices with greater concern about coronavirus[16].

In addition, this research reported that marital status was not statistically significant relationship to practice level which were incompatible with Rajbanshi M, et al.[17]. Our study unmarried subjects, divorced and single, had higher practice scores than those married counterparts. A plausible explanation could be while independent living they tended to spend more time on ongoing COVID-19 updates via different kinds of media platform especially social media. COVID-19 public awareness could be

promoted through social media and mass media for disease protection[18]. Involvement of social networking services would personally raise risk perception and preventive behaviors[19].

Besides, correlations between entrepreneurs' practice scores and different area of establishment were not statistically discovered which were in contrast to Shrestha G, et al.[20]. In the study preventive practices scores among entrepreneurs operating establishments in rural areas: Khao Kho, Chon Daen, Lom Kao, Nong Phai, Wong Pong, Bueng Sam Phan, were better than those in urban locations. One explanation for this could be that the entrepreneurs in rural areas primarily relied on health information provided by healthcare workers, community leaders, village headman, and local health departments during the outbreak which synchronized with findings of Karbana G, et al.[21]Furthermore, rural community members strongly have relationship with local village health volunteers[22].

The present study also studied relationships among knowledge, attitude, and practice of COVID-19 prevention regarding to establishment management. It was discovered that COVID-19 protective knowledge positively associated with practices and attitude significantly correlated with practice which corroborated with Phatthanakhuha W, et al.[23]but was contrary to Hossain MB, et al.[24]. In line with the KAP theory, effective practices were encouraged by changes in knowledge and individual attitude. Similarly, Glanz K, et al.[25] insisted human health behavioral changes can be attained through adequate knowledge of a specific health emergency which was pivotal to form right individual's belief. In relation to oral health, attitudes directly and positively had an effect on practice and were considered to be mediating between knowledge and practice[26]. Correspondingly, Maroof Z, et al.documented right attitude towards disease awareness was activated by COVID-19 coherent knowledge and positive attitude regarding to COVID-19 prevention then shaped proper preventive measures[27].Sufficient knowledge is a prerequisite to boost preventive practices such as proper face mask use, frequent hand washing, and maintain social distances[28]. These latter findings could be implied that COVID-19 precautionary knowledge, entrepreneurs' attitudes, and practices for prevention of health massage entrepreneurs in Phetchabun were substantially associated which accorded with Schrader PG, et al. proposed knowledge, attitude, and practices were dynamically related[29].

Notably, the current results were found that the entrepreneurs with a higher practice level highly shown establishment examination scores while low practice level subjects obviously had lower scores. These pointed out that the higher practice subjects implemented COVID-19 preventive practices and protocols for health establishments prescribed by DoHSS that definitely underlined on safety, physical contact avoiding, screening, and social distancing. Jaipeng C, et al. exposed Thai Lanna massage operators managed their business following DOHSS measured such as clean establishments with proper ventilations, individual protective materials, and sanitizers[30]. Likewise, Arintanachot N, et al.observed that site aspect was an important marketing strategy customers valued highly; that is, before entering a screening point and hand sanitizers were arranged and were use conveniently which this management can encourage confidence and safe of clients[31].

Conclusion and Recommendations

In summary, this study revealed that different educational status and monthly income level had significant associations with preventive practices of health massage entrepreneurs in Phetchabun towards establishment management for COVID-19 protection while demographic attributes including gender, material status, age, and establishment area were not related with the practices. In addition, there were found positive correlations between knowledge and practices and attitudes and practices. Also, the entrepreneurs with a higher practice level shown higher scores of establishment examination; in the meantime, the lower practice counterparts demonstrated lower scores.

These findings proposed government agencies and public health authorities to organize effective campaigns to control the spread of COVID-19 disease. For example, social media platforms should be functionally used to disseminate validated images, clips, infographics among the public. Besides, virtual workshops for establishment management should be performed to more educate about COVID-19 safety

practices. At the same time, brainstorming between community connection and the entrepreneurs could be carried out to strengthen precautionary procedures and formulate marketing strategies. Further studies were suggested to examine confidence in health safety of customers and entrepreneur incomes after health massage establishment improvement towards COVID-19 prevention.

The current study had several limitations. Firstly, the participants involved opened their business while COVID-19 outbreak was controlled by the government in early 2022; therefore, these findings could not be generalized to entire population. Secondly, the majority of the participants was age range of 45-59 years, it may have an influence in establishment arrangement. Lastly the questionnaire was performed from January to March 2022; at that time, the COVID-19 situation in Thailand was subsided; thus, the results may be different the ongoing situation.

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