

ปัจจัยที่สัมพันธ์กับการปฏิบัติตามเกณฑ์การประเมินและเกณฑ์รับรองคุณภาพร้านยา ของร้านยาที่ได้รับการรับรองคุณภาพในจังหวัดชลบุรี ประเทศไทย Factors Associated with Compliance with the Good Pharmacy Practice Criteria among the Certified Quality Community Pharmacies in Chonburi Province, Thailand

นิพนธ์ต้นฉบับ

Original Article

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บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษาความสัมพันธ์ของปัจจัยพื้นฐาน ได้แก่ คะแนน GPP และประเภทร้านยาต่อปัจจัยด้านและปัจจัยเชิงจิต และศึกษาปัจจัยที่สัมพันธ์ต่อการปฏิบัติตามเกณฑ์การประเมินและรับรองคุณภาพร้านยา 00 ของร้านยาที่ผ่านการตรวจ GPP ในจังหวัดชลบุรี **วิธีการศึกษา:** การวิจัยนี้สำรวจตัวอย่างจำนวน 280 แห่งด้วยแบบสอบถาม ซึ่งแบ่งตามสัดส่วนและใช้การสุ่มแบบเป็นระบบ (systematic sampling) วิเคราะห์ข้อมูลโดยใช้สถิติเชิงพรรณนา และสถิติเชิงอนุมาน ได้แก่ Fisher's Exact test และ Pearson's Product Moment correlation coefficient **ผลการศึกษา:** พบว่าคะแนน GPP สัมพันธ์กับปัจจัยด้านและปัจจัยเชิงจิตในการปฏิบัติตามเกณฑ์การประเมินและรับรองคุณภาพร้านยา (P -value < 0.05) ปัจจัยด้านและปัจจัยเชิงจิตสัมพันธ์กับการปฏิบัติตามเกณฑ์การประเมินและรับรองคุณภาพร้านยาอย่างมีนัยสำคัญ ($r = 0.673$ และ 0.614 ตามลำดับ, P -value < 0.05 ทั้งคู่) สรุป: คะแนน GPP สัมพันธ์กับปัจจัยด้านและปัจจัยเชิงจิต และปัจจัยด้านและปัจจัยเชิงจิตสัมพันธ์กับการปฏิบัติตามเกณฑ์การประเมินและรับรองคุณภาพร้านยา ฉะนั้นควรเริ่มจากการพัฒนาคะแนน GPP ของร้านยารวมถึงส่งเสริมปัจจัยด้านและปัจจัยเชิงจิตของร้านยา ซึ่งจะทำให้ร้านยามีแนวโน้มที่จะพัฒนาสู่ร้านยาคุณภาพมากยิ่งขึ้น

คำสำคัญ: ปัจจัย, การปฏิบัติ, เกณฑ์ร้านยาคุณภาพ, GPP

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Abstract

Objective: To study the correlation between fundamental factors, including Good Pharmacy Practice (GPP) score and pharmacy type, supporting factors and motivating factors among Chonburi pharmacies passing the GPP assessment. Factors related to compliance with assessment and accreditation criteria was also examined. **Method:** The study surveyed a sample of 280 pharmacies using a proportional, systematic sampling. The data were analyzed using descriptive statistics, Fisher's exact test, and Pearson correlation coefficient. **Results:** The GPP score was positively related to supporting factors and motivating factors (P -value < 0.05). Supporting and motivating factors were positively related to assessment and accreditation criteria ($r = 0.673$ and 0.614 , respectively, P -value < 0.05 for both). **Conclusion:** The GPP score was positively related to supporting factors and motivating factors. Supporting and motivating factors were positively related to assessment and accreditation criteria. High GPP scores could promote supporting and motivating factors of pharmacies. Consequently, the quality of pharmacies could be further improved.

Keywords: factors, practice, criteria of pharmacy accreditation, good pharmacy practice

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Introduction

Community pharmacy, or pharmacy, is a part of the primary health care system that works in close contact with people. It is not only responsible for the distribution of medicinal products but also acts as "a community health service center," which offers alternative services to people suffering from common illnesses. In addition, it provides people with self-care advice and refers them to medical specialists, if necessary.¹ In fact, many pharmacies across Thailand are part of a public health system. They typically have long operating hours and most are open daily. Consequently, people can access services with ease, and given that pharmacies are in the private sector, their management and operation help save Thailand's national expenditure for health care, which is likely to continue to rise.

In 2013, the Ministry of Public Health passed a ministerial law on the practice and licensing of modern drug selling. The key amendment to the previous version of the ministerial law was the establishment of criteria, procedures, and terms for license renewal; specifically, the amendment stipulated that application for license renewal necessitates the prerequisite of passing the Good Pharmacy Practice (GPP) assessment before further consideration. As a result, all categories of modern pharmacies, including Type I modern pharmacies, Type II pharmacies selling only ready-packed modern medicines not classed as dangerous drugs or specially controlled drugs, Type III pharmacies selling ready-packed modern medicines for animals, and Type IV wholesale pharmacies, are required to abide by the law and pass the

GPP assessment to be eligible for license renewal. This regulation was immediately applied to pharmacies that were granted licenses after the ministerial law became effective, i.e., all categories of modern pharmacies obtaining licenses since June 25th, 2014. On the other hand, those granted licenses before this date have an eight-year grace period commencing from the date when the ministerial law came into effect.²

“Accredited pharmacies” serve as another mechanism that promotes the development of systematic and integrated pharmaceutical services and drives pharmacists’ eagerness for continuous learning, self-assessment, and development according to the standards for drugstores established by the Pharmacy Council. A result-based monitoring and evaluation system for the management and building of motivation provides useful data for raising self-awareness and promoting continuous development. This system features four elements: people, process, content, and technology.³ Accredited pharmacies provide services different from those of general pharmacies; the former offer non-sale oriented professional services such as product and information services. As a result, accredited pharmacies contribute to the proper use of medicines, which leads to the overall development of the quality of the health care system and a better quality of life and health of Thai people.

In the fiscal year 2020, the Ministry of Public Health established a policy to enable people to access high quality safe services. The policy aimed at reducing congestion, inequality, waiting times, and expenses under the project for congestion reduction, which was piloted with accredited pharmacies. Chonburi province was chosen as a pilot site, which gave the opportunity for pharmacists in the province to provide services to people and enhance their economic stability as well as allowing them to perform their professional pharmacy roles. In the fiscal year 2019, 1,016 of the 18,900 modern pharmacies (5.375%) in Thailand fulfilled the criteria for pharmacy accreditation; however, this number of accredited pharmacies was considered relatively small. Moreover, although Chonburi ranked second after Bangkok for the number of modern pharmacies, of which 1,002 had renewed licenses,⁴ only 40 (4%) of these were accredited pharmacies. Clearly, the number of accredited pharmacies is too small and inadequate to provide services to people in the province. However, a previous study demonstrated that community pharmacists showed an interest in and had strong

motivation to join the project for pharmacy accreditation. Specifically, they intended to adhere to the principle of good pharmaceutical services to people, and they viewed that being an accredited pharmacy would allow them to perform their professional roles effectively, and that holding a particular status or position could drive them to self-improve to be role models. Moreover, according to their point of view, fulfillment of the assessment criteria for accreditation was feasible, and public relations, along with government support, had a considerable effect on increasing the number of accredited pharmacies.

It has been perceived that accreditation would enable the pharmacists to provide efficient services to people and achieve the recognition of medical staff and patients.⁵ Most pharmacy-owning pharmacists acknowledged the benefits of the accreditation project because it could help enhance the quality of pharmacies and promote the recognition of the profession within society. They also agreed with the established criteria and expressed a strong belief that their pharmacies had the potential to join the project. Nevertheless, some of them lacked the motivation to do so.⁶ Pharmacy owners who were not pharmacists faced more obstacles to joining the project than owners who were pharmacists, but they still managed to comply with the standards for drugstores.⁷ GPP assessment uses a minimum score of 70 percent to evaluate pharmacies on their adherence to modern pharmacy good practice. The score reflects the operational performance of pharmacies and their readiness for and likelihood of gaining accreditation. Previous research showed that the average scores of accredited pharmacies were slightly higher than those of non-accredited pharmacies.⁸ Operational performance was found to be related to motivating and supporting factors.⁹ Thus, pharmacy categories and GPP scores are interesting fundamental factors that may influence motivating and supporting factors, which encourage individuals to perform their roles as predicted by Herzberg’s two-factor theory.¹⁰

Given the issues mentioned above, the importance of developing accredited pharmacies in Chonburi and the dearth of studies on the association between fundamental factors sparked our interest in investigating the relationships between fundamental factors, including GPP scores and pharmacy categories, and motivating and supporting factors, and exploring the factors associated with compliance with assessment and accreditation criteria of modern pharmacies

in Chonburi. Herzberg's two-factor theory was applied in this study. It was conducted with the intention of providing useful data for the development of modern pharmacies into accredited pharmacies, which would promote the professional roles of pharmacists and yield significant benefits to the community. We tested the following hypotheses: (1) GPP scores were related to motivating and supporting factors in complying with the criteria for assessment and pharmacy accreditation; (2) pharmacy categories were related to motivating and supporting factors in complying with the criteria for assessment and pharmacy accreditation; and (3) motivating and supporting factors were positively related to compliance with the criteria for assessment and pharmacy accreditation.

Methods

This quantitative study was conducted from April to December 2020. The study population was 1,002 modern pharmacies with renewed licenses.⁴ The sample size was determined based on Krejcie and Morgan's¹¹ method; it gave a sample size of 279 modern pharmacies, which was rounded to 280. The sample size was calculated based on the proportion of each pharmacy group in the population. The pharmacy population was classified into three groups; pharmacist-owned pharmacies (n = 108); non-pharmacist-owned pharmacies (n = 137); and franchise pharmacies (n = 35). After classification, the pharmacies included in each group were selected using systematic sampling, and were later sorted by their establishment registration numbers.

The instrument used to collect data for the study was a questionnaire. The first part of the questionnaire was on general background, which covered position/responsibility, gender, age, and education level of the respondent and the duration of pharmacy operation, pharmacy category, and GPP score. The second part of the questionnaire included questions on supporting factors derived from Herzberg's two-factor theory.¹⁰ The measurement scale was adapted from Sangchant, Isarapreeda, and Thongpradid¹² and Pipatwattana, Rojpitakkul, and Kunnapadol.¹³ The responses to the questions were in the form of a five-point Likert scale with the response options ranging from 5 - strongly agree, to 4 - agree, 3 - not sure, 2 - disagree and 1 - strongly disagree. This part of the questionnaire consisted of fifteen questions that covered three aspects namely management policy,

working conditions and security, and interpersonal/organizational relationships. The following are examples of questions: (1) Your pharmacy has determined the appropriate policy for gaining accreditation; (2) You think that the pharmacy accreditation project helps attain long-term security; and (3) You think that the public institutions offer appropriate suggestions and assistance to gain accreditation. Mean scores were interpreted using a score range based on a class interval.¹⁴ The magnitude of the rating for each supporting factor was determined based on the mean score range for three levels of low, moderate and high corresponding to mean scores of 1 – 2.33, 2.34 – 3.67 and 3.68 – 5.00 points, respectively.

The third part of the questionnaire included questions on motivating factors stemmed from Herzberg's two-factor theory.¹⁰ The measurement scale was adapted from the works of Sangchant and colleagues¹² and Pipatwattana and colleagues.¹³ The responses to these questions were also in the form of a five-point Likert scale with options ranging from 5-strongly agree, to 4-agree, 3-not sure, 2-disagree and 1-strongly disagree. This part of the questionnaire consisted of thirteen items for three aspects of motivation namely work achievement, recognition, and advancement in business operations. The followings are examples of the questions: "People benefit from more pharmaceutical care services from accredited pharmacies"; "Becoming an accredited pharmacy can help gain the recognition and confidence of service recipients"; and "An accredited pharmacy has more chances of developing into a service center in public hospital networks." Mean scores were interpreted using a score range based on a class interval.¹⁴ The magnitude of the rating for each motivating factor was determined based on the mean score range for three levels of low, moderate and high with mean scores of 1 – 2.33, 2.34 – 3.67, and 3.68 – 5.00, respectively.

The fourth part of the questionnaire consisted of questions on compliance with the criteria for assessment and pharmacy accreditation. This study investigated pharmacy quality indicators,¹⁵ together with the assessment for pharmacy accreditation.¹⁶ The questions and the measurement scale were adapted from Wientong et al.¹ Specifically, responses to the questions employed a three-point Likert scale ranging from 0-not implemented, 1-in progress, and 2-implemented. This part included 69 questions classified into five categories of (1) sites, equipment, and facilities, (2) management for quality, (3)

good pharmaceutical services, (4) compliance and ethics, and (5) service provision and social participation. Some examples of the questions are as follows: “The pharmacy is certified by government authorities,” “The pharmacy has labels for categorizing drugs and the pharmacist service section,” “The pharmacy has a pharmacist on duty at all times during operating hours, and Continuing Pharmaceutical Education (CPE) is carried out as required by the Pharmacy Council,” “You have a record and a report of patient services, along with a system and documents for patient transfer,” “The pharmacy has a monitoring system to manage expired medications,” “You provide excellent pharmaceutical services,” “You promote the proper use of medications,” “You have a preventive system for recurring drug allergies, together with a drug usage monitoring system, and you provide proper care to patients,” “People can see clearly see the signage for all services in your pharmacy,” “You have a system for selling specially controlled drugs and narcotics, which are safely stored,” “You are involved in health campaigns in concert with different institutions and public health organizations,” and “You are engaged in organizing activities for sharing knowledge and providing suggestions for drugs and health improvement of the people in the community.” Mean scores were interpreted using a score range based on a class interval.¹⁴ The extent of compliance with the criteria for assessment and pharmacy accreditation was divided into three levels of low, moderate and high with mean scores of 0 – 0.67, 0.68 – 1.33, and 1.34 – 2.00, respectively.

The questionnaire was assessed by three experts for the validity of its content. It was found to have content validity with index of congruence of 0.67 - 1.00. Then, the revised questionnaire was piloted with a sample of 30 modern pharmacies in Chachoengsao province with characteristics comparable to those of the sample in this study. Internal consistency reliability was found high with a Cronbach’s alpha coefficient of 0.86. For data collection, the researchers sought the cooperation of the pharmacy development committee in Chonburi. Data were collected from the questionnaires, which passed the content validity test, distributed to participants of the pharmacy conference in Chonburi. In total, 280 copies were distributed and returned, accounting for a 100 percent response rate. The researchers checked the completeness of the questionnaires before carrying out data analysis.

Ethical considerations

The study protocol was approved by the Human Research Ethics Committee of Naresuan University (IRB No. 37/63; approval date: March 23rd, 2020).

Data analysis

Descriptive statistics, including frequency with percentage, and mean with standard deviation were used to describe demographic characteristics and study variables. The associations between GPP scores and supporting factors and motivating factors and between pharmacy category and the two factors were tested using Chi-square test or Fisher’s exact test, as appropriate. The score of each of the two factors was tested for correlation with the score of compliance using Pearson product-moment correlation coefficient. Statistical significance was set at a type I error of 5% (or *P*-value < 0.05). Statistical analyses were conducted using statistical package IBM SPSS Statistics Version 26.0.

Results

The majority of the participants were licensees and practitioners (54.64%), female (60%), and aged 40 – 49 years (33.93%) (Table 1). Most of them had completed a Bachelor’s

Table 1 Descriptive data for the respondents (N = 280).

Characteristics	N	%
Position/responsibility of respondent		
Licensee for selling modern medicines (Type I)	95	33.93
Licensee and practitioner at modern pharmacy (Type II)	153	54.64
Manager/decision-maker in pharmacy development	32	11.43
Gender		
Male	112	40.00
Female	168	60.00
Age (years)		
< 30	26	9.29
30 – 39	91	32.50
40 – 49	95	33.93
50 – 59	52	18.57
≥ 60	16	5.71
Education level		
Diploma or equivalent	3	1.07
Bachelor’s degree	230	82.14
Higher than Bachelor’s degree	47	16.79
Duration of business operation (years)		
< 5	57	20.36
5 – 10	101	36.07
> 10	122	43.57
Category of pharmacy		
Pharmacist-owned	108	38.57
Non-pharmacist-owned	137	48.93
Chain drugstore, e.g., franchise	35	12.50
GPP score (points)		
70.01 - 80.00	37	13.20
80.01 - 90.00	94	33.60
90.01 – 100	149	53.20

degree (82.14%) and had operated their pharmacies for more than 10 years (43.57%). Moreover, most of the participants were non-pharmacist owners of pharmacies (48.93%) and had GPP scores in the range of 90 – 100 (53.20%) (Table 1).

Overall **supporting factors** were found at a high level with a mean score of 3.981 ± 0.413 points (Table 2). For individual factors, the aspect with the highest level was management policy (mean = 4.076 ± 0.549 points), followed by interpersonal relationships (4.035 ± 0.525 points), and working conditions and security (3.833 ± 0.532 points). Overall **motivating factors** were at a high level with a mean score of 4.146 ± 0.399 points. Recognition had the highest score (4.222 ± 0.503 points), followed by advancement in business operations (4.167 ± 0.506 points), and work achievement (4.069 ± 0.504 points) (see Table 2).

Table 2 Levels of factors (N = 280).

Factors	mean	S.D.	Rating
Supporting factors			
Management policy	4.076	0.549	High
Working conditions and security	3.833	0.532	High
Interpersonal relationships	4.035	0.525	High
Overall score of supporting factors	3.981	0.413	High
Motivating factors			
Work achievement	4.069	0.504	High
Recognition	4.222	0.503	High
Advancement in business operations	4.167	0.506	High
Overall score of motivating factors	4.146	0.399	High

For the **compliance with the criteria for assessment and pharmacy accreditation**, the overall compliance was at a high level with a mean score of 1.822 ± 0.162 points). Category 4 (compliance and ethics) had the highest mean score (1.929 ± 0.143 points), followed by category 3 (good pharmaceutical services, category 1 (sites, equipment, and facilities, category 5 (service provision and social participation) and category 2 (management for quality) (1.928, 1.913, 1.764, S.D. = 0.426 and 1.577 points, respectively) (Table 3).

Table 3 Levels of compliance with the criteria for assessment and pharmacy accreditation (N = 280).

Compliance categories	mean	SD	Rating
Category 1: sites, equipment, and facilities	1.913	0.163	High
Category 2: management for quality	1.577	0.173	High
Category 3: good pharmaceutical services	1.928	0.166	High
Category 4: compliance and ethics	1.929	0.143	High
Category 5: service provision and social participation	1.764	0.426	High
Overall score for compliance	1.822	0.162	High

Relationships between GPP scores and factors

Among participants with high GPP score level, the majority of them had a high level of supporting factor (91.95%); while 78.72% and 27.03% of those with moderate and low levels of GPP scores, respectively, had a high level of supporting factor. Such difference was statistically significant (P -value < 0.001) (Table 4). In terms of motivating factor, among participants with high and moderate GPP score level, the majority of them had a high level of motivating factor (97.99% and 92.55%, respectively); while 59.46% of those with a low level of GPP score had a high level of supporting factor. Such difference was statistically significant (P -value < 0.001).

Table 4 Relationship between GPP score levels and levels of supporting factors and motivating factors (N = 280).

GPP score level	Factor levels						P-value*
	Low (1.00 – 2.33)		Moderate (2.34 – 3.67)		High (3.68 – 5.00)		
	n	%	n	%	n	%	
Supporting factor							
Low level (70.01 – 80.00), n = 37	1	2.70	26	70.27	10	27.03	< 0.001
Moderate level (80.01 – 90.00), n = 94	0	0	20	21.28	74	78.72	
High level (90.01 – 100.00), n = 149	0	0	12	8.05	137	91.95	
Motivating factor							
Low level (70.01 – 80.00), n = 37	1	2.70	14	37.84	22	59.46	< 0.001
Moderate level (80.01 – 90.00), n = 94	0	0	7	7.45	87	92.55	
High level (90.01 – 100.00), n = 149	0	0	3	2.01	146	97.99	

* Fisher's exact test.

Relationships between pharmacy category and factors

Among participants with different pharmacy categories, the majority of pharmacist-owned, non-pharmacist-owned and franchise pharmacies had a high level of supporting factor (80.55%, 75.18%, and 88.57%, respectively) with no statistical significance (P -value = 0.217) (Table 5). In terms of motivating factor, similar pattern was found with 93.52%, 87.60%, and 97.14% of pharmacist-owned, non-pharmacist-owned and franchise pharmacies, respectively, had a high level of motivating factor with no statistical significance (P -value = 0.092) (Table 5).

It was found that supporting factors were significantly, positively correlated with compliance with the criteria for assessment and pharmacy accreditation ($r = 0.673$, P -value < 0.001). Similar correlation was also found between motivating factors and the compliance ($r = 0.614$, P -value < 0.001).

Table 5 Relationship between pharmacy category and levels of supporting factors and motivating factors (N = 280).

Pharmacy category	Factor levels						P-value*
	Low (1.00 – 2.33)		Moderate (2.34 – 3.67)		High (3.68 – 5.00)		
	n	%	n	%	n	%	
Supporting factor							
Pharmacist-owned, n = 108	1	0.93	20	18.52	87	80.55	0.217
Non-pharmacist-owned, n = 137	0	0	34	24.82	103	75.18	
Franchise, n = 35	0	0	4	11.43	31	88.57	
Motivating factor							
Pharmacist-owned, n = 108	1	0.93	6	5.55	101	93.52	0.092
Non-pharmacist-owned, n = 137	0	0	17	12.41	120	87.60	
Franchise, n = 35	0	0	1	2.86	34	97.14	

* Fisher's exact test.

Discussions and Conclusion

This study investigated the relationships between fundamental factors, such as GPP scores and pharmacy categories, and supporting and motivating factors. It also examined factors related to compliance with the criteria for assessment and accreditation of the Chonburi community pharmacies that passed the GPP assessment. The analysis of the fundamental contexts of Chonburi pharmacies in relation to the associations between GPP scores and supporting factors and motivating factors, which were rated as low, moderate, and high, showed that GPP scores were significantly correlated (P -value < 0.05) with both types of factors. It is worthy noting that pharmacies with low GPP scores had varied opinions on supporting factors and motivating factors from low to moderate, and high. On the other hand, pharmacies with moderate and high GPP scores rated on the two factors as high and moderate, not low. These findings suggest that pharmacies ready to abide by standard criteria, i.e., having moderate to high GPP scores, were more likely to support management policy, working conditions and security, interpersonal/organizational relationships, work achievement, recognition, and advancement in business operations.

Since the GPP scores of pharmacies reflect their competency for providing patients with services, pharmacies should take into account efficiency of services and patient safety. Pharmacies with high competency demonstrated a high level of supporting factors and motivating factors. This is in line with Runghiran's study, which showed that work competency of professional nurses was associated with motivating factors and supporting factors.⁹

In this study, the relationships between pharmacy category (pharmacist-owned, non-pharmacist-owned, and franchise) and supporting factors and motivating factors were not significant. All types of pharmacies in Chonburi province had similarly high opinions about supporting factors and motivating factors. It may be assumed that each type of pharmacy was pleased to support and give precedence to management policy, working conditions and security, interpersonal/organizational relationships, work achievement, recognition, and advancement in business operations. In turn, these work practices encouraged modern pharmacies passing the GPP assessment to be compliant with the criteria for assessment and pharmacy accreditation. In addition, the development of pharmacies to gain accreditation and the pharmacy environment in Chonburi have been continuously managed by the future pharmacy development committee in Chonburi, which includes organizations under the Chonburi Provincial Public Health Office, the Eastern Drugstore Association, the Chonburi Pharmacist Association, the Chonburi Drugstore Association, and Burapha University. Therefore, pharmacy owners' competency is developed based on the standards of good pharmacy practice, accredited pharmacies, and Ob-oon community pharmacies for communication of information to owners, provision of a forum, and encouragement of relevant individuals to share their views to improve the competency of pharmacies in Chonburi. Consequently, pharmacy owners share the same supporting and motivating factors, implying that they considered such factors meaningful, interesting, and challenging enough to be a priority. This is consistent with the study of Thavornwattanayong and colleagues on pharmacy owners' opinions.⁵ They found that the majority of pharmacist owners, non-pharmacist owners and authorized representatives of pharmacy owners in Nakhon Pathom were pleased to comply with the notification of the Ministry of Public Health on the regulation of settings, equipment, and good pharmacy practice of modern pharmacies specified in the Medicine Act B.E. 2557.⁵ However, owners suggested that some chapters may still need to be revised and proposed that some points should be more flexible.⁵ They also requested support from public institutions for accreditation of more pharmacies.⁵ In addition, the study of Akarawichian et al found that in the case of community pharmacists' motivation, the pharmacists were determined to adhere to the principle of providing good pharmaceutical services to people, and they considered that accreditation would enable them to perform

their roles more effectively, provide quality services to people, and gain the recognition of medical staff and patients.⁶ These results are similar to the finding of Parinyarak⁷ that most pharmacy-owning pharmacists acknowledged that the pharmacy accreditation project could help enhance the quality of pharmacies and promote professional recognition within society; in addition, the pharmacists agreed with the established criteria and were confident that their pharmacies had the potential to be able to join the project.

The analysis of factors related to compliance with the criteria for assessment and pharmacy accreditation showed that supporting factors and motivating factors were significantly positively related to compliance (P -value < 0.05). Overall, these results confirm Herzberg's two-factor theory that is, supporting factors and motivating factors can help explain pharmacies' compliance with the criteria for assessment and accreditation.¹⁰ Although pharmacies are not directly under the Pharmacy Council, owners still desire to improve their business operations in order to raise the standards of their pharmacies. Becoming an accredited pharmacy necessitates compliance with the rules and regulations of the pharmacy accreditation project launched by the Pharmacy Council.

Supporting factors, including management policy, working conditions and security, and interpersonal relationships, were all rated highly. Similarly, motivating factors, such as work achievement, recognition, and advancement in business operations, were also rated highly. In addition, compliance with all criteria for assessment and pharmacy accreditation was at a high level. These findings support Herzberg's two-factor theory which states that supporting factors are relevant to people's working conditions and will help prevent work disruption and reduced work efficiency, which affect work performance. Motivating factors are also directly associated with work; building motivation can help improve work performance. Therefore, if pharmacies have a high opinion of both factors, their work performance would be improved in the same way. This is in line with the study of Akarawichian et al on motivation and obstacles to joining the pharmacy accreditation project. Their results demonstrated that community pharmacists joining the project were motivated by their determination to adhere to the principle of providing good pharmaceutical services to people, perform their professional roles effectively, and promote the recognition of their pharmacies as health service centers.⁶ All of these intrinsic

motivating factors contributed to the pharmacies' development. In addition, our results agree with those of Sangchant et al which found that motivating and hygiene factors were significantly positively associated with the morale of community hospital personnel working under the Office of Public Health of Nakhon Phanom Province.¹² Five motivating factors namely administration and policy, respect and recognition, work achievement, accountability, and working status and conditions could together predict work morale by up to 39 percent.¹² Our results also correspond to the findings of Sirithai and Chaimadan who investigated the relationship between motivation and work efficiency and they found a significant positive relationship between motivation and work efficiency at a moderate level.¹⁷ The findings of our study are also consistent with the results of Iampan's study which found that work behavior was positively associated with supporting and motivating factors.¹⁸

Our findings showed that supporting factors, such as working conditions and security, and motivating factors, such as advancement in business operations, were rated the lowest. Therefore, the Pharmacy Council and associated public institutions should promote pharmacies' and people's understanding of the pharmacy accreditation project, especially the history of the project's development, operational plans, and benefits to pharmacies and people, to build the trust of pharmacists to join the pharmacy accreditation project and enable a sustainable community health service.

Compliance with the assessment and pharmacy accreditation criteria of category 2 (management for quality) and category 5 (service provision and social participation) was less than that with other categories. Category 2 is concerned with management and documentation, while category 5 concerns service provision, activities, and public relations. Therefore, relevant public institutions, such as district public health offices and the Chonburi Provincial Public Health Office, should provide pharmacies with advice and assistance on standard documents that they can use to record information. In addition, these institutions are urged to organize integrated activities in concert with other organizations and community pharmacies to solve the health problems of communities and to organize a symposium on the pharmacy accreditation project for pharmacy owners and communities to allow the sharing of experiences. Lastly, they should communicate information about accredited pharmacies and their benefits so that people develop a better

understanding and positive attitudes and recognize the importance of pharmacies with high professional and safety standards.

Supporting and motivating factors affect pharmacies' GPP scores; therefore, relevant institutions should encourage pharmacies to constantly improve themselves by providing various support mechanisms, such as a self-assessment report that compares past and present outcomes to reflect on self-improvement, rewards for pharmacies for continuous improvement, and channels for receiving advice on improvement or coping with problems. With increasing GPP scores, motivating and supporting factors will increase, and pharmacies with a high level of competency are more likely to gain accreditation.

Supporting and motivating factors are related to compliance with the criteria for assessment and pharmacy accreditation. Therefore, to encourage pharmacies to comply with these criteria, relevant institutions should give precedence to policy with clear and appropriate goals that promote work stability, building unity, interpersonal/organizational relationships, provision of assistance, building pride, work satisfaction, achievement and recognition, and advancement in business operations. This would motivate pharmacy owners to comply with the assessment criteria to gain accreditation.

Future studies should investigate other variables in order to identify factors influencing compliance with the criteria for assessment and pharmacy accreditation, which will enable pharmacies passing the GPP assessment to gain accreditation, expand the professional roles of the pharmacy, and provide pharmaceutical care for the benefit of the people.

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