

CHAPTER V

DISCUSSIONS



In this chapter, the first four parts were discussed based upon the study results. These four parts included (1) Response rate and demographic characteristics, (2) Descriptive result of study variables, (3) Association among study variables, and (4) Identification of community pharmacists providing pharmaceutical care-based pharmacy practice, and its influencing factors. The remaining two parts discussed were the limitation of the study and the recommendation of the study.

Part I: Response rate and demographic characteristics.

The response rate in this study was considerably high when compared to a related study (Chaiuthitkul, et al., 2003), which was conducted among community pharmacists who are members of CPA in Thailand. The higher response rate in this study might come from the following up by telephone contact after the first mail or the attractiveness of the return envelope. Telephone contact provided valuable comments for this study, for example, non-respondents complained that it was not worth for them to respond to the mail survey. They thought that there were many mail-questionnaires from other studies sending to them recently and it wasted of their time to respond. However, some of them were satisfied with the telephone contact and they perceived that the researcher intended to get valuable information from them which would be benefit to pharmacy profession.

Data showed that most of the respondents worked in the independent drug stores, while a few respondents worked in chain or franchise drug stores. This might

be due to the fact that in the developing country like Thailand, there were a limited number of chain pharmacies.

Generally, in Thailand, most pharmacies did not have full-time pharmacists. The average time of the respondents' working hour was nine hours indicating that most of them worked full-time. It could be explained that most of the respondents were the owners and practiced full-time at pharmacies. In addition, besides the respondents, most of those pharmacies (79.5%) did not have other pharmacists. However, about 64% of the pharmacies had more than one assistant.

Most of pharmacies were located in the community and had 50- 100 customers per day. Most of the pharmacies in this study did not get any prescription within the last month due to the fact that the pharmacy in Thailand provided the dispensing without prescription as also mentioned in several studies.

For the social interaction data, the respondents who had more assistants would rather join in professional organizations' projects. From this result, it could be the fact that if pharmacies had more assistants, the respondents were more likely to participate in the continuing education program or join the project conducted by the professional bodies, especially in the pharmacy accreditation project of The Pharmacy Council. Rather, most of the respondents participated in either the CPA or HPA activities, while a fewer number of them participated in the pharmacy accreditation project of The Pharmacy Council (Thailand). Joining in professional organizations' projects seemed to be more difficult. It took a long period of time for the respondent to join in the projects, while participating in continuing education programs seemed to be easier.

Regarding the dimensions of patients' health care sought through drug store settings found in this study, it reflected that pharmacy practices in Thai context

was mostly provided in term of primary care. Provision of service in term of self medication and in term of chronic cases were less than primary care. The medication with prescription was found to be minimal. Some of these provisions were medications with prescriptions. However in real practice, most of prescriptions that pharmacists received were not the new prescriptions from physicians. They were the prescriptions that patients received from previous illnesses and they took to refill medications again at this time.

Part II: Descriptive result of study variables

The descriptive results of the provision of Pharmaceutical care -based pharmacy practice revealed that community pharmacists provided their practice within four aspects of care including primary care, self medication, refill medication in chronic cases, and in case of severe illnesses beyond pharmacist's responsibility. The seven domains of Pharmaceutical care -based pharmacy practice were reported by these respondents with the twenty- two activities .

If we look at the means scores of total activities (mean scores = 123), this study revealed that pharmaceutical care-based pharmacy practice among community pharmacists actually occurred. The respondents provided numerous activities related to pharmaceutical care. Compared to the previous studies concerning pharmaceutical care in Thailand (Sripa, 2000; Prachachalerm, et al., 2001; and Chaiutithkul. et al.. 2002), this study revealed the extensive activities of pharmaceutical care based pharmacy practice among Thai community pharmacists. It could be interpreted that Thai community pharmacists provided their practices more than just dispensing with counseling as mentioned in several studies.

Of all the domains, respondents performed moderately high practice in two domains including the patient assessment and consultation. For instance, regarding the counseling domain which had the total scores of forty, the mean score of 30.27 suggested that most of counseling activities were being conducted by these pharmacists. Like the counseling domain, the patient assessment domain which had the total scores of thirty, its mean score of 23.88 suggested that most of patient assessment activities were also being conducted by the respondents.

The documentation, the referral, and the medication monitoring domains, which were novel care were mostly related to pharmaceutical care activities of chronic cases. Few numbers of pharmacists provided these novel cares which was not a routine service. In addition, various important activities were performed. For example, the activities of these domains were asking the patient about their non-compliance and the error in taking medicine, asking the patient about the compliance to visit doctor, and record the patients problem in taking medicines,

Expecting that pharmacist should perform documentation activity more than the current provision, the study results indicated that most of pharmacists did not perform documentation activity. This was the important behavioral domain that ensured pharmacist to follow or provide to the continuing care for their patients effectively. For the referral activities, result showed that a few respondents provided referring note to chronic patients. Nevertheless, the respondents provided the advice for patients to visit the doctors and to follow up their medication

Although, there are quite different scores within each item of activities, this study revealed that the practice of actual activities and items of pharmaceutical care-based pharmacy practice had been addressed among community pharmacists in Thai context through different dimensions of health seeking patterns. These activities

could be varied from other countries that had the separation of prescribing and dispensing (SPD) practice.

After to the study of Odedena and Segal (1996), and the study of Bell (1998) were established, the measurement of pharmaceutical care-based pharmacy practice and the behavioral pharmaceutical care scale (BPCS) were firstly used in Thailand. The modified BPCS measurement was used to measure fourteen domains and thirty six activities. The BPCS had been used to determine the degree of pharmacy practice in terms of the pharmaceutical care scale. In our study, pharmaceutical care scale was also provided in every domains and activities related to the BPCS. Twenty two items of activities and seven domains of pharmaceutical care practice were explicit, and provided in the real setting. All domains in this study were based on the direct patient care and referral activities. Many domains in this study were also established as in the BPCS including patient assessment, therapeutic monitoring plan, counseling, documentation, and referral. For the patient's record screening and patient's understanding verification domains, they were not included in this study. Besides the direct patient care and the referral activity, the instrumental activity was not measured among the respondents in this study. Respondents' participating in continuing education program of CPA was the example related to the competency improvement domain of instrumental activity of the BPCS. Further, the instrumental activity of the BPCS concerning filled-prescription validation was not found among the Thai community pharmacists in the context of dispensing without prescription. It was confirmed by the result of this study that most of the respondents did not receive any prescription within a month at their pharmacies. Thus, the activities that related to the prescription were not implemented in Thai context.

Among the different contexts in many countries, the pharmaceutical care concepts and activities were related to the responsibility for the patients' health care. This was likely the same notion in term of pharmacist's responsibility for the outcome of drug therapy to ensure more effective and efficient use of medicine. Like the concept of FIP (1993), the pharmaceutical care practice in this study revealed the service relative to the Good Pharmacy Practice recommendation. These practices included the provision of drugs through dispensing with the information for effective use, the provision of public health promotion and the disease prevention. The concept that the community pharmacists should work for the well-being of their patients was also considered.

Most of the respondents in this study had positive attitudes, and positive intentions toward practice, their means scores were considered to be favorable. The mean attitude score indicated a moderately high positive degree toward each item of activities. Similar to the attitude, other behavioral factors of pharmacists indicated moderately high positive favorable degrees.

For the knowledge assessment, besides the knowledge for the referral process, respondents perceived that they had quite a high degree of knowledge in providing pharmaceutical care. The need for knowledge improvement concerning the referral process should be considered.

For self-efficacy, mean scores of self efficacy of respondents were moderately high. Most of them perceived that it was not difficult for them to provide this practice. For the documentation activities, these activities included the capability to take notes about patients' health medication history or adverse drug reaction, and conducting the referral process in case of severe symptom that are out of their responsibility. They had moderate degree toward these activities.

Most of respondents perceived that they had high degree of professionalisms and empathy. This showed that these two internal factors were important in the patient care. The mean score of the overall of these variables (ASKEP) was more than 70 % of the total possible scores.

For the barrier regarding to the pharmacists' perception of physician's concern on referral system, most of the respondents did not have positive or negative opinion. The data were contrary to the related studies (Odedena, Segal, and Hepler, 1995; Bell, et al 1998; Rossing, Hansen, and Krass, 2002,) that the lack of the co-operation and contact with the physicians especially in general practice (GP), was indicated as the important external barrier in the provision of pharmaceutical care. A possible reason could be that pharmacists in Thailand provided a few of such activities. Therefore they may not view physicians as important partners in pharmaceutical care. Instead, they felt that were the important primary health care providers in pharmacy setting.

Part III: Association among study variables

Regarding the overall association (the Pearson's correlation) of pharmacists' Attitude, Self-efficacy, Knowledge, Empathy, Professionalisms (ASKEP), predisposing factors and the barriers with intention, and Pharmaceutical care -based pharmacy practice, the result revealed that all social cognitive factors (ASKEP) were significantly associated with practice, while some other variables were found significantly associated with practice and intention of pharmacist to provide this care.

Prior to this study, in Thailand no related study reported that empathy and professionalisms were the influencing factors of pharmaceutical care practice. This study found that professionalism could influence pharmacy practice. Irvine (1999) explained that the adoption of professionalism could influence doctors' behavior. Likewise Almarsdottir and others (2001) confirmed these findings that a successful change in patient care practice must come from the profession itself.

For empathy, the study by Hojat and others (2002) concluded that empathy was the meaningful factor for patient care. Similarly, in this study, this variable was found to be an influencing factor of the practice related to patient's care.

Part IV: Identification of community pharmacists providing pharmaceutical care-based pharmacy practice, and its influencing factors.

The first hypothesis (H1) was to explore and identify the determinants of pharmacists' intention to provide pharmaceutical care. This hypothesis stated that social cognitive factors; attitude, self-efficacy, knowledge, empathy, and professionalism significantly predict the behavioral intention.

Regarding the regression model, all behavioral variables except professionalism and knowledge were found to be statistically significant predictors of intention. Standardized regression coefficient was highest for attitude (p-value <0.001) suggesting that attitude was the most important predictor of intention.

In comparing to the general findings on the theory of planned behavior, several studies (Ajzen, et al., 1991; and Odedena, et al, 1997; Farris and Kirking, 1998; Kittisopee, 2001) found that attitude was the important predictor of intention to provide practice. Based on the result, a positive relationship between attitude and

behavioral intention of pharmacist revealed that good attitude toward pharmacy practice was necessary for the provision of pharmaceutical care. Pharmacists in this study reported, on average, a moderately high attitude to provide pharmaceutical care. The result suggested that they agreed that the pharmaceutical care might lead to the provision of appropriate drug therapy in patient care.

Besides the attitude, the result confirmed that pharmacist's behavioral intention was determined by self-efficacy and empathy. The moderately high self-efficacy toward the practice indicated that many respondents might feel that they were competent to provide the pharmaceutical care. However, for their capability in referral process and documentation activity, many respondents reported moderate levels of confidence toward these activities. Because, positive relationship of respondents' self-efficacy and intention was necessary to provide the practice, the training course of the referral process and documentation may enhance their capabilities to provide more patient care. The moderate high scores of empathy with its positive association with intention indicated that empathy was the important influencing factor.

Workload was an important impediment for the respondent to provide the practice. Similarly to previous studies (Bell, et al 1998; Sripa, 2000), the respondents perceived that high workload limited their time to deal with specialized tasks including the provision of patient medication record and medication monitoring.

For gender, the result suggested that female pharmacists had more intention to provide practice than male pharmacists. It could be explained that female were more likely to work in patient care activity than male

Surprisingly, the reduction of patients due to the "30 Baht policy" was a factor to facilitate the respondents' intention to do more practice among the

respondents, which indicated that the respondents extended more patient service in order to survive their business in the competitive market. This result revealed that the reduction in the number of patients in drug stores from the “30 Baht policy” had a positive influence on the intention to provide pharmacy service. It could be explained that they had more intention to provide pharmaceutical care because they want to compete with the service that patients got from hospitals or clinics under the “30 Baht policy”.

Further, the result indicated that joining in projects conducted by professional organization was the significant factor toward the pharmacist’s intention and also the practice. It implied that the project, particularly the quality drug store project of The Pharmacy Council, might be the effective program in enhancing the community pharmacists to provide pharmaceutical care.

The second hypothesis (H II) explored and identified the determinants of pharmacists to provide Pharmaceutical care-based pharmacy practice. Similar to the first hypothesis, it stated that social cognitive factors including attitude, self-efficacy, knowledge, empathy, professionalism, and intention significantly predict the behavioral intention.

Results indicated that behavioral intention was the highest significant determinant of pharmaceutical care-based pharmacy practice. This result supported the theory of planned behavior. Similar to the previous study (Farris, 2000), self-efficacy was also found to be the important predictor of practice. For this study, empathy was also found to be an important predictor of pharmacists to provide practice. As well as previous finding (Sripa, 2001), knowledge was a significant predictor of practice. The association between knowledge and practice, and attitude and practice which could be explained by KAP model were confirmed by this result. The result of the regression

analysis indicated that behavioral intention could be explained by a set of influencing factors. The influencing factors to explain the intention included attitude, self- efficacy, empathy gender, price competition, influence of “30 Baht policy”, and joining in professional organization project. The important predictors of intention were attitude, self- efficacy, and empathy. Further, the practice was predicted by the intention and the other social cognitive factors including knowledge, professionalism.

Therefore, this study revealed that pharmacists’ implementation of pharmaceutical care required the forming of an intention to provide pharmaceutical care. After forming of the intention in conjunction with other cognitive factors, the practice will be provided.

The study revealed that pharmacists’ empathy had moderately high score and empathy was a significant factor of pharmaceutical care practice in this model. Regarding professionalism, the result showed that professionalism significantly influenced pharmaceutical care practice. Comparing to the study of Lerkiatbundit (2000), the professionalisms scale was adopted to be used in pharmacy students and reliability of it’s seven items were more than 7. In this study, the attributes of professionalisms were also developed for the community pharmacist who had been practicing in pharmacy professions. The seven items were tested and the reliability of 0.884 was acceptable. Most of pharmacists whether they provided or did not provide pharmaceutical care practice had moderate high scales of professionalism. Although, pharmacist’s role was dominated by physician, this result showed that pharmacists realized themselves as true profession which was necessary in providing patient care.

Price competition did not affect the intention and practice. The price competition situation was perceived differently by the respondent. Some of them perceived it was the threat that they could overcome this barrier by adoption their

service to compete with the drug stores that selling the cheaper medicine. The others perceived that they could not extend their service if they had to sell the medicine with a low competitive price. They might think that it was not worth for them to provide such a specialized patient care in their service.

Considerably, the most important obstacle that prevented pharmacists' intention to provide practice was workload. This might be due to customer volume and lack of pharmacists and assistants. It could be observed that the number of pharmacists and assistants were associated with the number of customers. The intention to do practice was significantly associated with joining in professional organization project. Pharmacists who joined in professional organization projects, were more likely to have intention to provide the practice. It was thus to promote the pharmacists to practice more, the professional organization might encourage them to join in project conducted by the professional organization. Having more assistants, or pharmacists in their pharmacies, pharmacist may have time to either participate in the academic conference or join in the projected conducted by the professional bodies. Additionally, joining in professional organizations' project was significantly associated with the practice and had high correlation with the knowledge. It is thus the effect of joining in project influenced the respondents' knowledge toward their practice.

Additionally, both external factors regarding the reduction of patients due to the "30 Baht policy" and workload was likely the same as the first hypothesis. For workload, the result suggested that it was an important impediment for the respondent to provide the practice.

For the other barrier regarding the individual's perception on the lack of law enforcement to have pharmacists attending at all drug stores nationwide, this

factor was found to be the barrier of their practice. Although the social cognitive factor (ASKEP) and other factors were important, the pharmacists might not change their practice if the other external environment, especially the law enforcement, was still not implemented. The first type of pharmacy must have community pharmacist's responsibility to carry out the pharmaceutical care activities. It was thus a difficult task to adopt this care to patients, if this barrier was not overcome.

Part V: Limitation of the study

This research has some limitations which should be presented and discussed for more understanding. These limitations are;

1. Although anonymously self-administered mail questionnaires were used in this study, some of respondents who requested the results of this study attached their addresses to the questionnaires for researcher to mail the results to them. Thus, it may have some response bias from social desirability based on positive response. To test if this bias occurred or not, T- test was calculated to compare the mean scores of pharmaceutical care practice and the mean score of intention reported by two groups of the respondents including those who requested and did not request the result. Data showed that mean scores of the two groups were not significantly different. It indicated that there was no response bias from the positive response of the respondents who requested the result.

However, non-response bias may occur from respondents who did not send back the questionnaire. Therefore, the level of practice or intention of this non-response might possibly be differed from this result.

2. The majority of respondents in this study were the owners of independent pharmacies. It was thus, this research could not be generalized to other groups of pharmacists who are the member CPA such as staffing pharmacists in chain drug stores and practicing pharmacists in independent pharmacy who are not the owners.

3. Practice behavior in the present study was defined in terms of four aspects and twenty two activities. Items for measuring attitude, self efficacy, knowledge, empathy, and professionalisms were not corresponded to each aspect of practice directly. However, the development of items for each variable was corresponded among actual behaviors and these social cognitive constructs in the present study. On the contrary, it indicated that defining these behavioral variables using the specific items corresponding to each behavioral activity variable in the context was the strength of this study which may lower a bias response from the self-administered questionnaire.

4. In this study, intention and behavior were collected at the same time. Therefore, analysis of causal determinants within the context of the theory of planned behavior was not possible.

Part VI: Recommendations

Recommendation for future research

The recommendations might be proposed as follows;

1. The present study only examined the five factors of social cognitive factors, the other variables such as the factor influencing pharmacist's behavior which

related to the job satisfaction may be an alternative predictor that should also be investigated.

2. The investigation regarding the opinions of respondents toward the result of the study, the follow-up study by face to face interviewing to get more explanations will result in invaluable recommendations.

3. To investigate the inter-professional's influence, the investigation of physicians' perception related to the referral activity or other pharmaceutical care activities which is an important factor to support community pharmacist to adopt their practice should be performed.

4. According to the cross sectional design of this study, behavioral intention was the mediating factor in this model. A pharmacist who had the intention was expected to have a direct effect on behavior. However, the respondent's practice should be measured after his/her intention to practice. It is recommended that a longitudinal study of pharmacist's intention with actual behavior relative to pharmaceutical care should be conducted.

5. In our study, all the study variables were entered in the multiple analysis to explore the direct effect. To explore both the direct and indirect effect toward practice, further investigation using path model should be employed.

Policy recommendation

The significant determinants of pharmacist behavior might be useful to design the intervention procedure for pharmaceutical care implementation in Thailand. The policy to be recommended to the professional organization and the government are in the followings;

1. The influences of social cognitive factors on pharmaceutical care were strong. Therefore, the programs from CPA and The Pharmacy Council to encourage the community pharmacists to improve their attitude, self efficacy and also intention toward pharmaceutical care should be performed.

2 Persuasion program to motivate the community pharmacists to join in projects conducted by CPA and The Pharmacy Council should be implemented. Therefore, the pharmacist's knowledge and also their intention toward pharmaceutical care practice will be improved resulting in the increase of pharmaceutical care practice.

3. Education program from CPA concerning to the knowledge related to pharmaceutical care activities especially the referral and documentation activities and well-developed intervention program to guide the community pharmacists in adoption their practice to the patients should be performed.

4. The cooperative program from The Pharmacy Council and The Medical Council to persuade pharmacist and physicians to work as a health team to provide patient care in the community pharmacy should be performed.

5. The performing of an effective intervention program with cooperation by the government in implementing the law enforcement for all pharmacies (type I) must be established. The availability of pharmacist practicing in the pharmacies nationwide will be improved. In addition, The Pharmacy Council activities to promote pharmacist's responsibility in attendance at pharmacies and providing more patient care have to be established.

6. The "30 Baht policy" from the government should be further investigated by persuading community pharmacies to be the sub- contractor in this program as the same as private hospital and clinic.

7. The accomplishment of community pharmacy performing pharmaceutical care practice in the country would be best learned by the actual effort rather than by the opinions from experts. Therefore, all of our policy recommendation should be brought into the real practice.