

Interaction between Physicians and Pharmaceutical Representatives, An Insight from Thailand

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Background: Evidence from Western countries has shown that informal relationships between the pharmaceutical industry and physicians could have some effect on physicians' prescribing behavior. Many countries have, therefore, developed conflict-of-interest policies to mitigate the effects of such interactions. Interactions between pharmaceutical representatives and physicians, one among those relationships, have never been systematically studied in Thailand.

Objective: To measure, for the first time, interaction between pharmaceutical industry representatives and resident physicians in Thailand and to assess physicians' attitudes toward this interaction, and factors which determined their frequency.

Material and Method: The authors surveyed 970 resident physicians in May 2009 at a university hospital in Thailand using 3-page anonymous, self-administered questionnaire and analyzed their responses.

Results: Overall response rate was 71.6%. Three-fourth of trainees had weekly conversations with pharmaceutical representatives. Nearly 90% of physicians receive at least one gift per month. Residents in one of the specialties with the highest prescribing costs were most likely to have such interaction with an adjusted odds ratio (OR) of 7.91 (4.61-13.58) for having conversations and 5.18 (3.28-8.17) for receiving non-educational gifts. Those residents who perceived that it is impolite to decline gifts were more likely to accept non-educational gifts: adjusted OR of 1.68 (1.04-2.71).

Conclusion: Frequency of interaction could have only been a marker for level of exposure, not a genuine influence on physicians' prescribing behavior. Nevertheless, given that resident physicians in Thailand have frequent interaction with pharmaceutical industry representatives, guidance on managing conflict-of-interest should be included in medical training.

Keywords: Relationship, Physicians, Pharmaceutical representatives, Thailand

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Physician-pharmaceutical industry relationship has been widely studied in Western countries over the past two decades^(1,2). Beginning in the past decade this issue has come under intense scrutiny^(3,4) which was mainly driven by the concern that these relationships could lead to conflict of interest of both parties. The influence has been recognized on different levels of medical societies⁽⁴⁻⁶⁾. On a personal level, influence of physician-pharmaceutical representative and gift-receiving has also been documented^(2-4,6) with

respect to influencing physicians' prescribing behavior. It has been considered to have an important effect on rapidly increasing expenditures of prescription drugs in USA⁽⁷⁾.

The relationship between physicians and pharmaceutical representatives (PRs) has been regarded as 'gift-giving' behavior. The obligation to repay might be placed at a different level of importance depending upon cultural effect. In Thailand, gift-giving behavior in business is considered to be widely acceptable as opposed to the United States and other western countries where gift-giving could be inappropriate, particularly high value gifts⁽⁸⁾. It would therefore be interesting to learn physicians' attitudes in country with high context culture to see how the social rule of reciprocity would come into play⁽⁶⁾.

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Moreover, exploring this effect on its' own and in conjunction with other factors would also be beneficial for properly managing this matter.

Factors associated with physician-pharmaceutical industry relationships have been studied at significant extent⁽⁹⁻¹⁶⁾ and the most interesting effect of the relationship which was explored is educational interventions^(9,11,14-16). Beside educational interventions which provided mixed results, specialty and level of medical professional have also been studied and found to show association with the magnitude of interactions. None of the previous studies had explored this kind of association in comparison with the two levels of physicians in multiple specialties. The present study will also take other factors in relation to physician's attitude toward interactions to consider in this complex relationship. Identifying these factors will potentially suggest direction for controlling this issue more properly. The present study aimed to study the magnitude of interactions between physicians and pharmaceutical representatives at two levels (pre-training and in-training) of physicians among multiple specialties and determine the factors associated with the interactions.

Material and Method

Participants

The present study was conducted in a major university hospital of Thailand where residency training programs were provided across 16 departments. All in-training and pre-training (candidates for residency training programs) physicians at the campus at the time of study were eligible.

Development of survey instrument

The instrument was developed based on literature review and expert consultation. Items were selected from previous literature and discussed among investigators in order to choose and modify items suitable for local practice and Thai culture. The questionnaire was designed to elicit participants' demographic information, frequency of their involvement with pharmaceutical representatives (PRs) over the last 12 months, attitude toward interactions with pharmaceutical representatives and their perceptions with respect to appropriateness of certain type of interactions. Subsequently, it was distributed to four local experts for additional suggestions and modification. Thereafter, it was tried-out in 30 residents in other university hospitals to access the questionnaire for clarity of questions and perception

of bias. The final version of the instrument was achieved by another discussion and consensus among investigators.

Questionnaire distribution

After obtaining institutional review board approval, a 3-page questionnaire with a cover page were distributed by Office of Deputy Dean of Post-graduated Education to all departments in the campus. Questionnaires were made anonymous and returned to each department's post-graduate office. The authors collected the questionnaire 2 weeks after distribution. It was planned for a second round of distribution if the response rate was lower than 40%. The second distribution was, therefore, conducted but included the statement: 'please dismiss this questionnaire if you have previously responded to this survey'.

Interactions

The authors asked participants to recall the frequency of their interactions with PRs over the last 12 months. Interactions included having conversations and receiving 11 types of possible gifts offered. The authors also asked respondents to reflect upon their beliefs on the appropriateness of accepting each kind of gift.

Attitude

A 12-item, 5-category Likert scale questionnaire was utilized to elicit participants' attitudes toward various aspects of relationships by asking their agreement to each statement (1 = strongly agree, 2 = agree, 3 = neutral, 4 = disagree, 5 = strongly disagree). Items consisted of 3 statements for which agreement suggests positive attitude towards interaction; four statements for which agreement suggests accepting have influence interactions on prescribing behaviors; one statement for which agreement suggests perception of impoliteness for declining offers from PRs; one statement for which agreement suggests patients' perception of inappropriateness in accepting gifts from PRs; and one statement for which agreement suggests observing a role model having appropriate interaction with PRs during training period. The authors also asked participants about their awareness and/or knowledge regarding Thai Medical Council's (TMC) regulations on interactions with pharmaceutical industry.

Statistical analysis

Data were initially analyzed to determine

differences between pre-training and in-training physicians with respect to frequencies of having interactions with PRs. Chi-square test or Fisher's exact test were applied as appropriate for determining difference in proportion between two groups.

Factor analysis was performed for 12 attitudes, to identify the underlying constructs addressed in the attitude items. The results were consistent with the presence of 2 primary factors. For factor 1 (positive attitude), 3 items (1 to 3) loaded most strongly. Factor 2 (influence) consisted of 4 items where items 4 through 7 loaded most strongly. Scores of 3 items from positive attitude factor and 4 items from influence factor were, therefore, summed up. The response for factor 1 ranged from 3 to 15 with a mid-point of 9. These numbers were categorized into 3 ordinal groups using scores of less than 9 indicating "agree", equal to 9 indicating "neutral" and more than 9 indicating "disagree" to having positive attitude toward interactions. For factor 2, the response ranged from 4 to 20 with a mid-point of 12. The same principle for categorizing the value was applied by using 12 to indicate "neutral" to statements of influence.

Logistic-regression models were applied to assess the multivariate associations between interactions with PRs and various predictors. Interactions explored were having conversations and accepting 'non-educational gifts', which were analyzed as binary variable (having interactions versus never). We considered receiving the following gifts as "non-educational gifts": meal without academic activities, trips without academic activities and tickets for social events. The rest of the gifts were, therefore, rated as 'educational gifts'.

The predictors were physicians' gender,

number of years in training program, specialty, knowledge of TMC regulation and attitudes toward interactions. For the purpose of analysis, specialties were categorized into 3 groups according to average cost of medicine prescribed at outpatient services (data retrieved from financial service at the studied hospital). This resulted in low (OB-GYN, radiology, anesthesiology, pathology, clinical pathology and forensic), intermediate (surgery, ENT, rehabilitation and pediatrics) and high (medicine, orthopedics, ophthalmology and psychiatry) prescribing group. With respect to attitudes toward interactions, the 5-scale Likert scale was classified into agree, neutral and disagree for the following items: sum scores of factor 1, sum score of factor 2, item 8 and item 9. For pre-training physician, current working place was also explored by dichotomization into district hospital and others.

Results

Overall response rate is 71.6% (695 out of 970 eligible participants). Fifty-four percent of participants are female with mean age of 28 years old. There are 232 pre-training and 463 in-training physicians who responded.

Three-fourth of physicians in both groups has weekly conversations with pharmaceutical representatives. Nearly 90 percent of physicians in both groups receive at least one gimmick per month. Higher proportion of in-training physicians receive non-educational gifts compared to pre-training physicians (57.4% and 43.7%, $p=0.001$) (Table 1).

Physicians' perceptions of appropriateness in accepting different type of gifts from PRs are shown between in Table 2. Trends of their beliefs compared the two groups of physicians are mostly in a similar

Table 1. Magnitude of interactions for all physicians

Interactions	Proportion of physicians having interactions		
	In-training (n = 463)	Pre-training (n = 232)	p-value
Having conversation	74.5% (345)	74.1% (172)	1.00
Accepting any type of gifts ⁺	88.7% (411)	89.6% (208)	0.80
Accepting non-educational gifts ⁺⁺	57.4% (266)	43.9% (102)	0.001

⁺ Gifts include: gimmick, sponsored meal during academic activities, meal without academic activities, drug information, drug sample, textbook /educational materials, registration /travel expenses for conference arranged by professional organizations, registration /travel expenses for conference not arranged by professional organizations, lecture tour, trips and ticket for social events

⁺⁺ Non-educational gifts include: meal without academic activities, trips without academic activities and tickets for social events

vein. Trips without academic activities and tickets for social events, items considered to be non-educational gifts, are perceived as appropriate in higher proportion among in-training physicians compared to pre-training

group.

Attitudes toward physicians-pharmaceutical representative interactions shown in Table 3 are quite similar in both pre-training and in-training physicians.

Table 2. Physicians' perspective with regard to appropriateness of accepting gifts

Type of gifts	Percentage perceived as appropriate		p-value
	In-training (n = 453)	Pre-trainin (n = 232)	
1) Gimmicks	92.3 (418)	94.8 (220)	0.211
2) Sponsored meals in academic activities	93.8 (425)	93.5 (217)	0.884
3) Meals without academic activities	45.9 (206)	46.3 (105)	0.926
4) Drug information	94.9 (429)	99.1 (230)	0.004*
5) Drug samples	80.5 (364)	79.7 (184)	0.785
6) Text books or learning materials	68.7 (309)	58.2 (135)	0.007
7) Registration /travel expenses for conference arranged by professional organizations	84.3 (380)	81.4 (188)	0.341
8) Registration /travel expenses for conference not arranged by professional organizations	36.0 (162)	28.0 (65)	0.036
9) Expenses for trips with academic activities	57.6 (259)	55.6 (129)	0.626
10) Expenses for trips without academic activities	22.5 (101)	15.9 (37)	0.044
11) Tickets for social events	20.3 (91)	13.9 (32)	0.040

* using Fisher's exact test

Table 3. Results from 12-items question exploring physicians' attitude toward various type of relationship between physicians and pharmaceutical representative (PR)

Statement	Pre-training (n = 232)	In-training (n = 453)
1) Information from PRs help me choosing drugs more efficiently	2.6 (0.71)	2.5 (0.73)
2) Interactions with PRs are essential for helping physicians to learn about information regarding options for drug and treatment	2.6 (0.76)	2.5 (0.77)
3) Support from drug company for registering to scientific meetings is essential for in-training physicians	2.7 (0.97)	2.5 (0.91)
4) Receiving gifts from PRs have impact on my prescribing practice	3.5 (0.98)	3.5 (0.92)
5) Receiving gifts from PRs have impact on my colleagues' prescribing practice	3.3 (0.96)	3.2 (0.86)
6) Receiving gifts of small value might have impact on physicians' prescribing practice	3.4 (0.95)	3.3 (0.96)
7) Receiving gifts of different value would have different impact on physicians' prescribing practice	3.3 (1.07)	3.3 (1.02)
8) It might be impolite to decline gifts provided by PRs	3.1 (0.93)	3.1 (0.83)
9) From patients' perspective, physicians' practice of receiving gifts from PRs are inappropriate	2.7 (0.80)	2.8 (0.79)
10) Currently, interactions among physicians and PRs are appropriate	3.1 (0.66)	3.0 (0.70)
11) During training, you have observed role model in appropriate interactions with PRs	-	2.7 (0.70)
12) Medical school should provide training in appropriate interactions with PRs	2.5 (0.83)	2.7 (0.83)

Value are mean (SD) of responses to five-point Likert scale (1 indicate strongly agree, 2 agree, 3 neutral, 4 disagree and 5 strongly disagree)

They tend to view interactions positively and disagree that receiving gifts could have an impact on physicians' prescribing practices.

Factors associated with accepting non-educational gift were explored for both groups of physicians. For pre-training physicians, after adjusting for other variables, working place, perceived it to be impolite to decline offers were the only two factors associated with accepting non-educational gifts from PRs. Among in-training physicians, number of years in training program, specialty, having observed a role model during training and agreeing with statement 'from patients' perspective, physicians' practice of receiving gifts from PRs are inappropriate' were associated with accepting non-educational gifts. When combining both groups of physician into the same model in order to determine factors associated with receiving non-educational gifts, specialty becomes the strongest predictor with OR of 5.18 (95% CI = 3.28-8.17) for specialties in high prescribing group and OR of 2.95 (95% CI = 1.86-4.69) in intermediate prescribing group (Table 4).

Training status remains a predictor associated with receiving non-educational gifts with OR of 1.66 (1.14-2.42) for in-training physicians compared with pre-training physicians. The strongest association among pre-training physicians is the agreement with statement 'it is impolite to decline gifts provided by PRs' (OR = 2.61) which remains significant although become less strong (OR = 1.68) among the whole group. Disagreement with statement 'from patients' perspective, physicians' practices of receiving gifts from PRs are inappropriate' associates with receiving non-educational gifts among in-training physicians and the association becomes attenuated when this was explored among all participants.

Discussion

To our knowledge, this is the first survey in a large sample size of physicians conducted in a south-eastern Asian country exploring issues regarding interactions between physicians and pharmaceutical representatives. Proportions of physician having interactions in the present study were high and comparable to some studies from Western countries^(1,2) and Japan⁽¹⁷⁾ but higher than a recent study from the USA⁽¹⁸⁾. Between the 2 sub-groups in our study, proportions of physician having conversations and receiving gifts were similar. However, when non-educational gifts are considered, a higher proportion of in-training physician had received at least one item

per month. This could probably, to some extent, be attributed to the difference in their perception of appropriateness in receiving gifts from PRs. In particular, a significantly higher proportion of in-training physicians perceived that receiving expenses for trips without academic activities and tickets for social events were appropriate.

Additional factors in relation to physicians' attitude that might explain differences in gift-receiving behavior between the 2 groups were observed from multivariate models. Among pre-training physicians, apart from the working place which might reflect amount of exposure to PRs, physicians' beliefs seem to play an important role as evidenced by having stronger association. For in-training physicians, multiples factors were associated with gift-receiving behavior which was probably influenced by training environment and level of exposure. Interestingly, 2 other factors that come into the association were perception of patients' attitude and claiming to have observed a role model during training. From our initial hypothesis, observing a role model should have resulted in receiving fewer gifts. Our study, however, showed a contradictory result which brings us concerns about trainees' view on 'role model on appropriate interactions'. This view should be explored and the knowledge should be distributed to staff who would be playing this important role.

When considering all participants, effect of environment and level of exposure remains strong which was evidenced by magnitude of associations for specialty and training status. Perceiving of being impolite to decline gift offered appeared to be culture-related attitude and seems to affect physicians' behavior of receiving non-educational gifts. This viewpoint would have been uncommon in countries with low context culture for gift giving such as United States, Canada or UK⁸. A recent study from Japan⁽¹⁷⁾, a country from Eastern culture, has, however, not investigated this issue. It would be interesting to study whether changing this belief could have any effect on the magnitude of relationships between physicians and pharmaceutical representatives.

With respect to 'appropriateness for gift-receiving', the issue remains opened to debate. It is dependent on social norm to certain extent. In Thailand, Thai Medical Council issued a regulation in 2006⁽¹⁹⁾ that is somewhat less restrictive and allows for gifts of less than 3,000 baht (approximately 100 US dollars) and support for attending scientific meetings which concurs with regulations in some Western countries⁽⁵⁾. Although a number of professional medical associations

Table 4. Factors associated with accepting non-educational gifts among physicians

Variables	Accepting non-educational gifts		
	Adjusted OR for pre-training group	Adjusted OR for in-training group	Adjusted OR for all physicians
Gender			
Female	1.00	1.00	1.00
Male	0.84 (0.45-1.59)	0.71 (0.42-1.18)	0.79 (0.55-1.15)
Specialty**			
Low	1.00	1.00	1.00
Intermediate	1.26 (0.56-2.84)	1.69 (0.92-3.11)	2.95 (1.86-4.69)
High	1.42 (0.67-3.04)	2.34 (1.30-4.23)	5.18 (3.28-8.17)
Relationships are beneficial			
Agree	2.95 (1.86-4.69)	1.75 (0.75-4.07)	1.69 (0.98-2.89)
Neutral	1.22 (0.45-3.26)	0.99 (0.36-2.68)	1.12 (0.58-2.17)
Disagree	1.00	1.00	1.00
Relationships are influential			
Agree	1.00	1.00	1.00
Neutral	0.96 (0.33-2.75)	0.76 (0.35-1.66)	0.64 (0.36-1.14)
Disagree	1.15 (0.54-2.43)	0.69 (0.38-1.25)	0.98 (0.64-1.51)
Impolite to decline gifts offered			
Agree	2.61 (1.19-5.73)	1.21 (0.59-2.47)	1.68 (1.04-2.71)
Neutral	2.48 (1.18-5.21)	0.96 (0.53-1.73)	1.34 (0.88-2.04)
Disagree	1.00	1.00	1.00
Perception of patients' attitude			
Agree	1.00	1.00	1.00
Neutral	1.57 (0.82-3.03)	2.15 (1.21-3.83)	1.57 (1.05-2.35)
Disagree	0.88 (0.33-2.34)	2.48 (1.11-5.53)	1.65 (0.94-2.90)
Knowledge of TMC regulations			
Yes	0.91 (0.28-2.94)	1.22 (0.72-2.09)	1.20 (0.78-1.84)
No	1.00	1.00	1.00
Year of training			
First		1.00	
Second	NA	4.25 (2.24-8.07)	NA
Third		10.09 (5.19-19.61)	
Observing 'role model'			
Agree		3.30 (1.26-8.63)	
Neutral	NA	1.35 (0.54-3.36)	NA
Disagree		1.00	
Prior work place			
Local hospital	1.00	NA	NA
Other places	2.11 (1.15-3.87)		
Training status			
Pre-training	NA	NA	1.00
In-training			1.66 (1.14-2.42)

* Factors adjusted in the model for pre-training, training and all physician groups are factors in the corresponding column while NA indicates factors not adjusted in the models

** Specialties are classified by cost of prescribing into low (OB-GYN, radiology, anesthesiology, pathology, clinical pathology and forensic), intermediate (surgery, ENT, rehabilitation and pediatrics) and high (medicine, orthopedics, ophthalmology and psychiatry)

in Western countries have issued guidelines on appropriate relationships between physicians and

pharmaceutical industries, there is little uniformity among them^(5,6). Recently, in the United States, Institute

of Medicine (IOM) proposed a recommendation which suggested a number of appropriate gifts to be accepted in certain circumstances⁽²⁰⁾ while Professional Medical Associations aimed for ‘zero contribution from industry’⁽³⁾. Despite of not breaching the regulation, a significant body of evidence^(4,6,21,22) suggests that receiving gifts of any value could influence on physicians’ prescribing behavior. It is possible that accepting even gifts of small size could lead to bias in prescribing practice, both unintentionally and unconsciously. More importantly, physicians under-recognized the magnitude of this influence and believed they are immune to it^(15,23). This trend of belief also was evidenced in the present study.

The present study has several limitations. The survey was conducted in one center, its generalization is therefore uncertain. The authors relied on residents’ self-reports of their practices where underreporting could have occurred, this is known as social desirability bias. With respect to their attitudes, qualitative research might provide a somewhat deeper insight compared to quantitative research. Patients’ attitude appears to have influenced physicians’ attitude. Further study to explore patients’ perspective in a high context culture for gift giving would provide a better picture of this complex issue.

Despite of some limitations, the present study does provide several insights into this issue from an Eastern perspective with some differences and similarity to Western society. Multiple factors identified from our study are indeed potentially modifiable, perhaps by providing adequate knowledge and insight into this problem. Some factors appeared to be culture-based issues, which might, however, be applicable in Western countries as the cross-cultural issue is now distributed worldwide in the globalized society.

Potential conflicts of interest

None.

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ปฏิสัมพันธ์ระหว่างแพทย์และผู้แทนยา การศึกษาในบริบทไทย

วรลักษณ์ ศรีนนท์ประเสริฐ, อาทิตย์ อรัญญาเกษมสุข, อัครินทร์ นิยมานนิตย์, กุลชญา สุธีเชษฐ, พัสวีศักดิ์ วงศ์วัชรเดช, สุชีรา ภัทรายุทธวรรคณ, สุพจน์ พงศ์ประสพชัย

ภูมิหลัง: การศึกษาจากประเทศแถบตะวันตกพบว่า การมีปฏิสัมพันธ์ของอุตสาหกรรมการผลิตยาและแพทย์ อาจมีผลต่อพฤติกรรมการสั่งยาของแพทย์ ดังนั้นในหลายๆ ประเทศได้มีการร่างนโยบายที่จะควบคุมผลของปฏิสัมพันธ์ดังกล่าว เพื่อป้องกันการเกิดผลประโยชน์ทับซ้อนในประเทศไทยเอง ยังไม่มีการศึกษาอย่างเป็นระบบถึงปฏิสัมพันธ์ของแพทย์กับผู้แทนยา อันเป็นหนึ่งในความสัมพันธ์ดังกล่าวข้างต้น การศึกษานี้จึงเป็นการศึกษาแรกในประเทศไทยที่ทำเพื่อวัดความถี่ของการมีปฏิสัมพันธ์ระหว่างผู้แทนยากับแพทย์ประจำบ้าน และประเมินทัศนคติของแพทย์ต่อความสัมพันธ์ดังกล่าว และศึกษาปัจจัยที่เกี่ยวข้องกับความถี่ของการมีปฏิสัมพันธ์

วัตถุประสงค์และวิธีการ: การเก็บข้อมูลได้จากการส่งแบบสอบถามจำนวน 3 หน้า ซึ่งไม่ระบุชื่อให้กับแพทย์ประจำบ้าน และผู้ที่กำลังจะมาเป็นแพทย์ประจำบ้าน ซึ่งมีทั้งหมด 970 ราย ในช่วงเดือน พฤษภาคม พ.ศ. 2552 และวิเคราะห์ผลที่ได้จากแบบสอบถาม

ผลการศึกษา: มีผู้ตอบแบบสอบถามมาทั้งหมด 71.6% โดยพบว่า 3 ใน 4 ของแพทย์ประจำบ้านมีการพูดคุยกับผู้แทนยาอย่างน้อย 1 ครั้งต่อสัปดาห์ เกือบ 90% มีการรับสั่งจากผู้แทนยา 1 ชิ้นต่อเดือน แพทย์ประจำบ้านที่อยู่ในสาขาวิชาที่มีการสั่งจ่ายยาในปริมาณมาก มีแนวโน้มจะมีปฏิสัมพันธ์กับผู้แทนยามากที่สุด โดยมีโอกาสพูดคุยมากกว่าสาขาที่มีการสั่งยาน้อยด้วยค่า $OR = 7.91$ (95% $CI = 4.61-13.58$) และมีโอกาสรับของขวัญที่ไม่เกี่ยวกับการศึกษาด้วยค่า $OR = 5.18$ (95% $CI = 3.28-8.17$) แพทย์ประจำบ้านที่รู้สึกว่าเป็นการไม่สุภาพที่จะปฏิเสธการรับของขวัญ มีแนวโน้มมากกว่าที่จะรับของขวัญที่ไม่เกี่ยวกับการศึกษาด้วยค่า $OR = 1.68$ (95% $CI = 1.04-2.71$)

สรุป: ความถี่ของปฏิสัมพันธ์ที่เกิดขึ้นระหว่างแพทย์กับผู้แทนยา อาจเป็นเพียงตัวแทนของการบ่งบอกถึงจากการที่มีโอกาสที่ต้องทำงานการติดต่อกัน ในทางวิชาชีพไม่ได้บ่งบอกถึงผลต่อการสั่งยาของแพทย์ อย่างไรก็ตามแพทย์ประจำบ้านในประเทศไทยมีปฏิสัมพันธ์กับผู้แทนยาก่อนข้างบ่อย จึงควรให้มีการให้ความรู้ความเข้าใจเกี่ยวกับการจัดการความสัมพันธ์ให้เป็นไปอย่างเหมาะสมในหลักสูตรการอบรม เพื่อป้องกันการเกิดผลประโยชน์ทับซ้อน
