Thai Physicians' Perceptions of Sources of Information About New Drugs in Terms of Amounts of Information and Trustworthiness

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ABSTRACT

Objective: To determine Thai physicians' opinions of sources of information about new drugs regarding amounts of information and the trustworthiness of the sources.

Methods: Questionnaires developed by the research team were sent to physicians working at each regional/general hospital (92 totals) of the Ministry of Public Health in Thailand asking them to indicate the amount of information about new drugs from different sources and the trustworthiness of the sources. Multiple regression analysis was used to determine variables that related to the trustworthiness of information sources.

Results: One hundred and thirty (28.26%) of 460 questionnaires were returned. These indicated that in terms of amounts of new information, Thai physicians received most from academic conferences, followed by medical journals, and medical representatives respectively. Information from conferences was considered to be most trustworthy followed by information from medical schools and experts. In contrast, information from medical representatives, direct mail advertisements, and hospital pharmacists had low trustworthiness. After controlling for the variables of gender, education, and type of hospital, multiple regression analysis found that the only significant factor was the relationship between age and trustworthiness of information from the source of medical journals (standardized $\beta = 0.199$, $p = 0.039$). There was no factor that significantly related to trustworthiness of information from other sources.

Conclusion: Thai physicians received information about new drugs from both commercial and professional sources but trusted information from the latter more. This was considered appropriate as studies had found that information from commercial sources was sometimes inaccurate, incomplete and misleading.

Keywords: Amount, information sources, new drugs, physicians, trustworthiness

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Limited resources, patients' rights, expense, and restricted information about adverse reactions mean that policy-makers must ensure appropriate prescription of new drugs by physicians in hospitals. Prescribing new drugs is very important to both patients and hospitals since new drugs are usually expensive and have limited adverse drug reaction information. Sources of information about new drugs for physicians are both commercial and professional.[1-3] However, studies have shown that information from commercial sources, such as from direct advertisements, from advertisements in medical journals, and from drug company representatives, was sometimes inaccurate, incomplete and misleading.[4-13] Other studies found that physicians with different characteristics reported differences in the use of information sources.[3,14-16] In Thailand, there are very few studies regarding physicians' information sources of new drugs, physicians' perceptions of the trustworthiness of information, and physicians' characteristics relating to the trustworthiness of information from each source.

MATERIALS AND METHODS

This study was a cross-sectional survey using a questionnaire developed by the research team. The survey samples were physicians working in the medical

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departments of regional hospitals (≥ 1,000 beds) and general hospitals (120-999 beds) of the Ministry of Public Health of Thailand. Data was collected by sending 5 pre-paid postage questionnaires to the Chair of the medical department of each regional and general hospital in Thailand, and requesting them to distribute to their staffs. Subjects rated the amount and trustworthiness of information they received from pre-identified sources on a five point scale (1 to 5) with higher scores indicating more amount of received information or more trustworthiness. Data were collected from June to August 2003. Statistical analysis was completed using the SPSS program. Multiple regression analysis was used to determine factors related to trustworthiness of information from sources. Sample size in each variable analysis varied due to missing data. A p-value of less than 0.05 was considered statistically significant.

RESULTS

Four hundred and sixty questionnaires were sent to the Chairs of medical departments of 25 regional and 67 general hospitals. One hundred and thirty questionnaires were returned (28.26%). Questionnaires were received from 15 regional hospitals (60.00%) and 38 general hospitals (56.72%). Most of the respondents were male (67.69%), aged between 31-40 years (60.16%), and worked in regional hospitals (63.08%). Most did not hold the position of Department Chairs (81.54%) and were general practitioners (67.21%) (Table 1).

The most leading sources of information about new drugs based on the amount of information were academic conferences, medical journals, medical representatives, experts/school of medicine staff opinion, and direct medical advertisements from drug companies; respectively. However, the physicians' rankings differed in terms of trustworthiness of each information source, being (from most to last) academic conferences, experts/school of medicine staff opinion, medical journals, staff opinion, and direct medical advertisements from drug companies; respectively. Hospital pharmacists were ranked last as a source of information about new drugs both in terms of amount and trustworthiness (Table 2).

After controlling for the variables of gender, education, and type of hospital, multiple regression analysis found that the relationship between age and level of trustworthiness of information from medical journals (standardized β= 0.199, p = 0.039) was the only significant factor. There was no factor that significantly related to level of trustworthiness of information from other sources (Table 3).

TABLE 1. Characteristics of the survey sample.

Characteristics	No. (%)
Sex (n = 130)	
Male	88 (67.69)
Female	42 (32.31)
Age (years)	
< 30	18 (14.06)
31-40	77 (60.16)
41-50	25 (19.53)
> 50	8 (6.25)
Hospital types	
General	82 (63.08)
Regional	48 (36.92)
Position	
Chair of the Medical Department	24 (18.46)
Staff	106 (81.54)
Professional status	
Specialist	40 (32.79)
General	82 (67.21)

DISCUSSION

Results of this study were consistent with other studies[1-3] which found that physicians received information mostly from commercial and professional sources. For this study, physicians ranked academic conferences, medical journals, and medical representatives as the leading sources of amounts of information about new drugs. However, they ranked academic conferences, experts/school of medicine staffs, and medical journals as the leading sources in terms of trustworthiness. Other studies in this area have showed inconsistent results. Studies found that medical representatives, direct mail and journal advertisements were the leading sources that led to prescribing new drugs.[15,17] In contrast, Avorn et al.[1] found that physicians indicated that drug advertisements were believed to have "minimal importance" and rated academic sources as major determinants in influencing their prescribing habits. The findings of this study indicated that physicians in Thailand relied less on information about new drugs from commercial sources. This appears appropriate as many studies have found that information from commercial sources such as direct advertisements and information from medical representatives was sometimes inaccurate, incomplete and misleading.[4-13]

The only significant factor regarding trustworthiness of information from sources was age after controlling for gender, education, and type of hospital. This meant that older physicians trusted information from medical journals more than younger physicians. This may be due to older physicians having more practical experience than younger physicians in the use of information from different sources. The findings were incon-

TABLE 2. Sources of information about new drugs in terms of amount of information and trustworthiness.

Information sources	Amount		Trustworthiness	
	Mean (SD)	Score rank	Mean (SD)	Score rank
Academic conferences	3.81 (0.97)	1	4.30 (0.85)	1
Medical journals	3.55 (0.88)	2	3.92 (0.54)	3
Medical representatives	3.36 (1.03)	3	2.50 (0.83)	6
Experts/school of medicine staff opinion	3.28 (1.02)	4	4.02 (0.78)	2
Direct medical advertisements from drug companies	2.71 (0.95)	5	2.55 (0.79)	5
Staff opinion	2.60 (0.88)	6	2.94 (0.85)	4
Hospital pharmacists	1.83 (0.95)	7	2.47 (0.98)	7

TABLE 3. Results of regression analysis to determine relationship between subjects' characteristics and trustworthiness of information from medical journal (R^2 = 0.041).

Variables	β	Standardized β	t	p-value
Constant	2.861	-	5.750	<0.001
Gender (female/male)	0.067	0.037	0.393	0.695
Medical certificate (yes/no)	0.140	0.045	0.495	0.622
Hospital types (general/regional)	0.051	0.029	0.325	0.746
Age (years)	0.023	0.199	2.085	0.039

sistent with other studies which found that physicians of different ages, practice setting, and specialty used different sources of information.[2,3,15,18-19] This inconsistency may be due to differences in professional culture and time of study.

Interestingly, physicians ranked hospital pharmacists last as a source of information about new drugs in terms of amount and trustworthiness which was consistent with the study by Boerkamp et al.[20] These findings suggest that hospital pharmacists in Thailand should be better trained and be more involved in the provision of information about new drugs to physicians. In addition, physicians should realize that information from hospital pharmacists is unbiased due to a lack of conflict of interest compared to information from medical representatives and, as a result, they should be encouraged to make more use of information from the hospital pharmacists.

The limitation of this study was the small sample size; therefore, the findings may be not a representative of physicians working for the regional and general hospitals of the Ministry of Public Health.

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