PROCEEDING

THE 2ND INTERNATIONAL CONFERENCE ON

PHARMACY AND ADVANCED PHARMACEUTICAL SCIENCES

Book 2:
Clinical and Social Pharmacy

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Pharmacy and Advanced Pharmaceutical Science"

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PERFORMANCE OF COMMUNITY PHARMACIST ON DRUG INFORMATION, COUNSELLING, AND MONITORING SERVICES AND ITS CONTRIBUTING FACTORS

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ABSTRACT

Pharmacist must give drug information, counselling, and monitoring services in community pharmacy related to rational drug use as community request. Nowadays, there is disparity between everyday practices of performance of pharmacist on drug information, counselling, and monitoring services in community pharmacy and the current recommendation of practices of pharmaceutical care. Therefore, this gap will affect the successfulness of pharmaceutical services. The objective of this study examined contributing factors that affect pharmacist's performance on drug information, counselling, and monitoring services in community pharmacy.A cross-sectional study design utilizing questionnaires measuring previously validated constructs was used to evaluate the effect of these factors on pharmacist's performance in community pharmacy in Surabaya. The 80 pharmacist's manager had participated to fulfill the questionnaires in this study. Overall, 45% of respondents reported that they likely had low performance in their professional activities in delivering drug information, counselling, and monitoring services. Statistically, leadership, training, and reward satisfaction, partially have a significant influence toward pharmacist's performance ($p<0.05$). And simultaneously these factors have a significant influence toward pharmacist's performance ($p<0.05$). Overall, the dominant factor that affect pharmacist's performance on drug information, counselling, and monitoring services in community pharmacy is pharmacist's leadership ($p<0.05$).The performance of pharmacist professional activities in delivering drug information, counselling, and monitoring services was still low and dominantly influenced by leadership factor. Therefore, pharmacist as "long life learner" needs continuing education programs in order to advance their pharmaceutical care practices especially on drug information, counselling, and monitoring services in community pharmacy.
Key words: performance, community pharmacist, leadership, drug information, monitoring

INTRODUCTION

The essential role of the practising pharmacist, especially in community pharmacy is providing appropriate advice and counselling by the pharmacist can encourage patient compliance through a better understanding by the patient of their medication, thereby improving therapeutic efficacy and the patient's well-being. Patient compliance from the pharmacist's point of view is largely dependent upon the communication of information necessary for the correct use of medication in assosiation with supportive advice or counselling. Counselling often involves the giving of advice and making certain that the advice is understood after listening sympathetically to the patient's doubts, problems or viewpoint. A suitable environment is very important for effective counselling (Jepson, 1996).

Therefore, pharmacist must give drug information, counselling, and monitoring services in community pharmacy related to rational drug use as community request.

Nowadays, there is disparity between everyday practices of performance of pharmacist on drug information, counselling, and monitoring services in community pharmacy and the current recommendation of practices of pharmaceutical care (Athijah, 2005). This gap will affect the successfulness of pharmaceutical services.

Therefore the concept of performance is an important way to understand and answer the question why do this gaps exist. It is postulated that individual and organizational factors influence job performance (Gibson et al., 1985; McCloy et al.,1994; Muchinsky, 1993). The individual factors include various personal factors such as motivation, leadership, experience, and training. While the organizational factors such as workload, work environment, reward system, and laws.

The objective of this study examined those contributing factors that affect pharmacist's performance on drug information, counselling, and monitoring services in community pharmacy.

METHODOLOGY

Data source

A cross-sectional study design utilizing questionnaires, measuring previously validated constructs was used. The setting of this study was community pharmacy in Surabaya, Indonesia. The population of this study was pharmacist manager in Surabaya, and there were 569 community pharmacies. Initially, sample size determination of this study were 77 community pharmacies using $p=0.32$; $\alpha=0.05$; $d=0.1$ and covered all Surabaya area with random sampling technique (Lemeshow, et al., 1997). Pharmacist's performance assessment based on Standard of Pharmaceutical Services in Community Pharmacy issued by Indonesian Ministry of Health in 2004.

Variables

The independent variables of this study consist of personal factors of pharmacist to include motivation, leadership, experience, and training. The organizational factors investigated including workload, work environment, reward satisfaction and laws. The dependent variable was pharmacist's performance on drug information, counselling, and monitoring services

Measures

Pharmacists were asked for the intensity of doing the professional activities when they present in community pharmacy. The intensity of professional activities were measured using 7-point Likert-type scale ranging from 1 (never) to 7 (always). Drug information, counselling, and monitoring services based on Standard of Pharmaceutical Services in Community Pharmacy issued by Indonesian Ministry of Health. These items were taken from previous studies of performance of pharmacist (Faturrohmah, et al., 2009). Regarding the independent variables, which four personal factors and four organizational factors were measured using 7-point Likert-type scale ranging from 1 (extremely disagree) to 7 (extremely agree).

Data analysis.

Descriptive statistics, including frequencies, precentages, and means, were computed for variables using SPSS 11.5. Linear and multiple regression statistics were used to analyze the data.

RESULTS AND DISCUSSIONS

Respondents were taken by purposive sampling technique as willingness to participate was low. Random sampling from 300 pharmacists asked by telephone, only 10% would like to participate. Questionnaires was sent to 97 pharmacists who agreed to fill in the questionnaires, 80 questionnaires was returned and analyzed for this study (response rate = 82.47).

Table 1 lists the demographic characteristics of respondents. The mean (±SD) age of respondents was
41.66±10.89 years, and 80% were women. Pharmacists' education expressed as number of years since first graduated with mean (±SD) was 14.91±10.01 years. Respondents experience is reported with mean(±SD) of number of years work in community pharmacy was 11.85±9.97 years. And there were 37.5% pharmacists had another job beside as a manager in community pharmacy.

Overall, 45% of respondents reported that they likely had low performance in their professional activities in delivering drug information, counselling, and monitoring services (Table 2). Interestingly, the profile of performance of pharmacist tend to decrease from drug information, counselling, and then monitoring services. The precentages of monitoring services include drug monitoring and medication recording by pharmacists with low performance is 76% and 88% respectively. It means the pharmacists' role in drug monitoring and medication recording to community seems abandoned. Lack of these services in community pharmacy will increase of irrational drug use. According to WHO (World Health Organization) (2002), worldwide more than 50% of all medicines are prescribed, dispensed, or sold inappropriately, while 50% of patients fail to take them correctly. With the advent of unit pack dispensing, pharmacist has the opportunity to devote more time to communication and counselling which he should recognize as a professional priority (Jepson, 1996). Pharmacist also has a professional responsibility to document professional practice experience and activities including prescription and non prescription drug information, counselling, and monitoring to assess and solve the problem of irrational use of medicines (FIP,1997; WHO,2002).

Regarding which contributing factors that affect the pharmacist's performance on drug information, counselling, and monitoring services in community pharmacy. Table 3 show the result of t-test for individual factors of pharmacist consist of motivation, leadership, experience, and training that affect to drug information, counselling, and monitoring performance. Significant influence were found between leadership and training factors with the performance ($p<0.05$). The performance of pharmacist did not affected by motivation and experience significantly. Table 4 describe the result of t-test for organizational factors consist of workload, work environment, reward satisfaction and laws that affect to drug information, counselling, and monitoring performance. Reward satisfaction had significant influence toward the pharmacist's performance ($p<0.05$) than the others. Multiple regression statistic (ANOVA) show that simultaneously both individual and organizational factors have a significant influence toward pharmacist's performance on drug information, counselling, and monitoring services in community pharmacy ($p<0.05$). From eight factors that investigated in this study, leadership factor of pharmacist is the dominant factor that affect pharmacist's performance on drug information, counselling, and monitoring services in community pharmacy ($p<0.05$).

This result show that leadership is needed to close the immense gap between our vision and how most pharmacists practice their profession. In all sectors of practice, most pharmacists still spend most of their time on order processing and product handling functions—functions that could be conducted well with less direct pharmacist engagement through the intelligent design and use of systems, technology, and technical workers (Zellmer, 2008). Achieving a high-performance pharmacy practice requires leaders committed to a clear vision for excellent practice. These pharmacy leaders must continuously enhance their team's commitment to that vision, using recognized benchmarks of best practice to extend pharmacy's influence across the continuum of care. Having better pharmacy leaders results in better patient care, improved medication safety, and enhanced pharmacy productivity, all of which usually lead to better medication use within health systems (Zilz, 2004). There are various ways to develop leadership qualities, including: learning from challenges, attending training programmes, performing job performance, and learning through relationships with others (Duggan,et al., 2007). Continuing education for pharmacists should be undertaken and supported to ensure maintenance of pharmacists' capacity to respond the changing health needs of the public (WHO,1994).

CONCLUSION

The performance of pharmacist professional activities in delivering drug information, counselling, and monitoring services was still low and dominantly influenced by leadership factor. Therefore, pharmacist as "long life learner" needs continuing education programs in order to advance their pharmaceutical care practices especially on drug information, counselling, and monitoring services in community pharmacy.

LIMITATIONS

A limitation of this study was the use of a cross-sectional mail survey, which does not allow us to ascertain if pharmacists' performance translate into actual higher or lower performance. Another limitations of this study were the performance assessment done by the pharmacists itself, and the purposive sampling technique. In order to generalized purpose these limitations must be evaluated or eliminate in future study.

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Table 1. Demographic and Professional Characteristic of Surveyed Respondents (n=80)	
Characteristics	**Values**
Age (years), mean±SD	41.66 ± 10.89
%Women	80
%Men	20
No.years since first graduated as pharmacist, mean±SD	14.91 ± 10.01
No. years work in community pharmacy setting, mean±SD	11.85 ± 9.97
Work in another place, %	
No	62.50
Yes	37.50
Position, %	
Manager and owner	32.50
Manager	67.50
Work with one or more other staff members, %	
Other pharmacists	7.50
Technicians	98.75
Clerks	100
Number of staff members, mean±SD	5.55 ± 4.48
Number of working hours in a week, mean±SD	27.56 ± 22.15
Number of prescription personally dispensed, mean±SD	8.03 ± 8.19
Number of patients personally served, mean±SD	15.87 ± 13.36

*Maximum sample size (spesific numbers of respondents to each item varied because of nonresponses).
*No. = number

Table 2. Profile of Performance on Drug Information, Counselling, and Monitoring Services		
Activities	**Performance, n (%)**	
	High	**Low**
Information		
- Giving right, clear, current information wisely	57 (71)	23 (29)
- Giving information about drug use management	56 (70)	24 (30)
- Giving pharmaceutical dosage form, medication and health counseling	47 (59)	33 (41)
Counselling		
- Giving drug counseling to patient with prescription and self medication	45 (56)	35 (44)
- Giving continuing counseling to patient with chronic diseases	30 (38)	50 (62)
Monitoring		
- Drug monitoring to specific patient by phone or asking when they revisit pharmacy	19 (24)	61 (76)
- Medication recording to patient especially with chronic diseases	10 (12)	70 (88)
Overall	44 (55)	36 (45)

** Those who reported that they were likely never do these activities were labeled as "low" and those who responded that they were likely always do these activities were labeled "high".*

Table 3. Association of individual factors with drug information, counselling, and monitoring performance of pharmacist		
Individual Factors	**Mean ± SD**	**t statistics**
Motivation	6.04±0.934	0.485
Training	5.28±1.551	0.043
Leadership	5.88±1.084	0.001
Experience	5.66±0.954	0.381

Table 4. Association of organizational factors with drug information, counselling, and monitoring performance of pharmacist		
Organizational Factors	**Mean ± SD**	**t statistics**
Workload	5.53±1.136	0.739
Workclimate	6.02±0.881	0.429
Reward	5.60±1.176	0.007
Laws	6.31±0.805	0.978

Table 5. Result of F-test (simultan regression) for individual and organizational factors to drug information, counselling, and monitoring performance

ANOVA(b)						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43,744	8	5,468	4,042	001(a)
	Residual	96,056	71	1,353		
	Total	139,800	79			

a. Predictors: (Constant), Laws, Training, Workclimate, Experience, Workload, Motivation, Reward, Leadership

b Dependent Variable: Drug information, counselling, and monitoring