

**ASSESSMENT OF OUTPATIENT DRUG PRESCRIPTION
WITH NATIONAL HEALTH INSURANCE
AT PHONGDIEN MEDICAL CENTER
DURING THE PERIOD OF 2017 - 2018**

Vo Thi My Huong¹; Nguyen Phuc Hung²; Le Thi Kim Phuong¹

SUMMARY

Objectives: The overuse of medicines has frequently occurred at health facilities in Vietnam. Many factors affect prescription. This study was carried out to investigate the patterns of outpatient prescription and factors related to prescription of doctors. Subjects and method: Cross-sectional study with a total of 300 outpatient drug prescriptions and 30 questionnaires of physicians were conducted at Phongdien Medical Center, Cantho city during the period of 2017 - 2018. Results: The average number of drugs in each prescription was 5.8, with 35.6% of antibiotics, 31.7% of corticosteroid and 36.7% of vitamins. The most influential factors in the prescription were the Ministry of Health's Diagnostic and Treatment Guidelines, clinical examination and side effects of the drugs. Conclusion: In general, there were many shortcomings in prescribing and the indicators did not reach the World Health Organization's recommendations. The effect factors need to be taken into account in order to improve the rationality, safety and effectiveness of prescriptions at Medical Center.

** Keywords: Drug prescription; Outpatient; Prescription indicators; Related factors.*

INTRODUCTION

Human requirements for healthcare increased with the level of social development. However, the irrational prescription and drug use have been a matter of concern in most countries because of serious consequences for the economy and society. The overuse of drugs, especially antibiotics, vitamins and corticoids, were popular occurrences in many countries.

Many studies and surveys on drug use management have revealed shortcomings

in drug prescriptions in hospitals [1]. A research on 550 prescriptions in Yemen in 2010 with the proportion of generic drugs was relatively low (39.2%) and the percentage of antibiotics were 28.8% [7]. Retnosari Andrajati et al conducted the study in Depok, Indonesia on 28 doctors and 788 prescriptions showed that physicians who had attended training courses of rational drug use were 2.01 times more rational than those who had never attended training [6].

Like developing countries, the drug overuse in Vietnam is also an emerging issue.

1. Cantho University of Medicine and Pharmacy

Corresponding author: Vo Thi My Huong (vtmhuong@ctump.edu.vn)

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In Bachmai Hospital, a research by Tran Nhan Thang (2012) on 3,971 outpatients who were prescribed showed that the average number of drugs was 4.7 and approximately 32.3% of all prescriptions had antibiotics. A research by Nguyen Tran Thi Giang Huong (2010) showed the most influential factors on the prescription consisted of the antibiotics spectrum; effectiveness of drugs and compliance of patients [2].

Phongdien Medical Center, one rural district of Cantho city has not good conditions and infrastructure for healthcare. Therefore, we conducted this study to investigate the prescription issues in Phongdien Medical Center. Our main objective was: *To evaluate the drug prescription parameters based on World Health Organization (WHO) standards and the influential factors on prescription.*

SUBJECTS AND METHODS

The study was conducted in Phongdien Medical Center from October 2017 to March 2018.

1. Research subjects.

Doctors who directly examined, treated the disease and outpatients who visited health facilities in the research period.

* *Exclusive criteria:* Prescriptions without doctors and patients' agreement or the patients were inpatients.

2. Methods.

Cross-sectional study on 300 outpatient prescriptions and 30 valid questionnaires for physicians (i.e., collection subjects) were analyzed based on two groups of parameters, as follows:

- Eleven prescription indicators: The core indicators (6 indicators) and the complementary drug use indicators (5 indicators).
- The effect factors on prescription: Drug information, characteristics of patients and drugs.

For the effect factors on prescription, attitude measurement scale were used to grade the responses. The scale ranged from 1 to 5 (1: not at all effective; 2: somewhat non-effective; 3: not sure or may be effective; 4: somewhat effective; 5: extremely effective). For ethical issues, all processes were approved by Cantho University of Medicine and Pharmacy and Medicine Ethics Committee/Ethical Committee on Pharmaceuticals, as well as the Director of the hospital.

RESULTS

1. The prescription indicators.

Table 1: The core and complementary drug use indicators.

Indicators	Results (n = 300)
The prescribed drugs number	5.8
The percentage of generic drugs	82.6%
The percentage of antibiotics	35.6%
The percentage of essential drugs	41.7%

The percentage of vitamins	36.7%
The percentage of corticosteroids	31.7%
The average prescription cost	62,908.6 VND
The percentage of drugs cost spent on antibiotics	11.2%
The percentage of drugs cost spent on corticosteroids	1.5%
The percentage of drugs cost spent on vitamin	3.6%
The percentage of drugs cost spent on essential drugs	33.5%

The core and complementary drug use indicators were surveyed through 300 outpatient prescriptions at health facilities. The average number of prescribed drugs was 5.8 drugs per prescription, ranging 1 - 10 drugs. Antibiotics, vitamins and corticosteroids were prescribed with no more than two drugs per prescription.

2. The effect factors on prescription.

Table 2:

Factors	1	2	3	4	5
Percentage (n = 30)					
The diagnosis and treatment Guidelines of Ministry of Health (MOH) and hospital	-	-	13.3	26.7	60.0
Drugs and therapeutics committee (DTC)	-	-	13.3	40.0	46.7
Training courses	-	26.7	53.3	20.0	-
Individual experiences in treatment	-	13.4	10.0	73.3	3.3
Medical representatives	3.3	46.7	40.0	10.0	-
Medicine advertisements	3.3	6.7	50.0	40.0	-

(General note: 1: not at all effective; 2: somewhat non-effective; 3: not sure or may be effective; 4: somewhat effective; 5: extremely effective)

Our study revealed 86.7% of doctors believed that the diagnosis and treatment based on Guidelines of Ministry of Health and hospital, and DTC were extremely important factors affecting drug selection in treatment.

Table 3: The factors of patient’s characteristics influencing prescription.

Factors	1	2	3	4	5
Percentage (n = 30)					
Age	-	-	-	80.0	20.0
Gender	-	3.4	60.0	33.3	3.3
Clinical examination	-	-	-	46.7	53.3
Comorbidities	-	-	16.7	40.0	43.3
Paying ability	-	33.3	60.0	6.7	-
Patient’s requirement	16.6	46.7	16.7	13.3	6.7

Most physicians agreed completely that patient’s age distribution and clinical examination were strongly associated to the drugs prescription (100%).

Table 4: The factors of drugs influencing prescription.

Factors	1	2	3	4	5
Percentage (n = 30)					
Effectiveness	-	-	-	70.0	30.0
Cost	-	16.7	70.0	13.3	-
Availability	-	13.3	10.0	53.3	23.3
Insurance or hospital drug list	-	-	40.0	46.7	13.3
Dosage form	-	3.3	3.3	70.0	23.3
Medical producers	-	3.3	43.3	43.3	10.0
Side effects	-	-	-	60.0	40.0
Interaction	-	-	6.7	83.3	10.0

All the physicians surveyed believed that effectiveness and side effects were extremely important factors influencing drug selection in treatment.

DISCUSSION

1. The prescription indicators.

The average number of prescribed drugs was 5.8 drugs per prescription, which was higher than the WHO recommendation of 2 - 3 drugs in a standard prescription.

There were 1,738 drugs prescribed and there were 1,436 drugs prescribed by generic name accounting for 82.6%.

This result was lower than WHO's recommendation (100%) and higher than the research in Ghana (62.6%) [5]. Accordingly, the percentage of generic drug was not high because the effectiveness was still limited. As for the antibiotics usage, 35.6% out of 300 prescriptions had at least one kind of antibiotics. This result was higher than the WHO’s recommendation (20 - 30%). Cost spent on antibiotic

accounted for 11.2%, lower than that in Bacgiang General Hospital (18.6%) [4]. The percentage of prescriptions of corticosteroids was 31.7%. This result alarms the abuse of corticosteroids at this health facilities. However, the cost is not too high because corticosteroids get low price and are always available at hospitals. Both prescribers and patients supposed that vitamins are necessary, so the percentage of vitamins accounted for 36.7% and spent on 3.6% of total cost. The percentage of drug from the Essential Medicines List (EML) sixth edition was 41.6%, which was lower than WHO's recommendations (100%) because doctors lacked information about EML or had other necessary indications for patients. The average prescription cost was 62,908,6 VND, which was higher than the study in 4 rural provinces of China with 27.07 Yuan (9,625,46 VND) [10]. The use of the generic name has helped to reduce costs for patients and the burden on the health budget.

2. The effect factors on prescription.

For drug information, most doctors recommended that the MOH treatment guidelines and hospitals had a positive effect on their prescription (86.7%). Training courses were poorly attended with only 20% of doctors. This poor attendance was due to the fact that physicians were so busy that they did not get enough time to attend. 13.3% of doctors thought that individual experiences in treatment did not affect prescription. Young doctors, who have not had much experience in treatment, often rely on the guidelines for diagnosis and treatment of MOH and hospitals.

For patient factors, 100% of physicians assessed the age and clinical examination that significantly affected prescription. It is inevitable because the prescription of medication depends entirely on the patient's condition. Payment ability affected 6.7% of doctors because National Health Insurance would pay. In order to increase the rationality of prescriptions, health care facilities need to further strengthen their attention to the characteristics of patients in treatment.

For drug factors, 100% of doctors believed that the effectiveness and side effects of drugs had an effect on prescription. This result was higher than Huda O.Salhia's finding with the effectiveness of drug just affecting more than 70% of doctors [9]. The interaction and dosage form of drugs affected 93.3% of doctors in treatment. Maybe, the majority of patients were older people with many diseases, so they often used many kinds of medicine. In addition, other factors also had significant influence on the doctor's prescription decision.

CONCLUSION

The study investigated prescription indicators according to WHO standards and identified the influence of factors on prescription at the health facility at the same time. Prescription indicators were not really consistent with the recommendation of WHO and the influence of many different evaluated factors. This result provides implications for health providers aiming at improving drug use rationally and focusing on the essentials to promote safe, effective and reasonable use of drugs.

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