

ASSESSMENT OF OUTPATIENT DRUG PRESCRIPTION AND DRUG USE INDICATORS AT ELEVEN GOVERNMENT LOCAL HOSPITALS IN CANTHO CITY DURING THE PERIOD OF 2016 - 2017

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SUMMARY

Objectives: To survey the drug use among outpatient treatment and the satisfaction of patients with health care services at 11 health facilities in the Cantho city by means of prescription indexes and index of comprehensive drug use. Subjects and methods: Research subjects were outpatients, outpatient prescriptions with health insurance, essential drug lists, major drug lists at investigate health facilities. Following the prospective method, the sample size was 4,046 prescriptions and the corresponding patients were interviewed equally during the study period at 11 public health facilities. Results: The average number of drugs in a single prescription was 4.56 and the average cost of each prescription was 88,737.71 VND. The proportion of drugs prescribed by generic names and international names was 98.67%. The rate of prescription and the drug cost was 31.2% and 16.04% for antibiotics, 0.9% and 0.65% for injections, 25.4% and 2.33% for vitamins, 12.4% and 1.73% for corticoids, 41.99% and 31.83% for essential drugs, and 63.07% and 58.75% for major drugs. The score of patients satisfied with health care services was 3.92 points. Conclusion: The study is a reference for health workers and leaders about drug use and patient satisfaction on health care services in outpatient treatment in Cantho city.

** Keywords: Drug prescription; Drug use; Satisfaction.*

INTRODUCTION

The abuse of antibiotics, injections, vitamins, corticosteroids; the large number of unnecessary drugs in prescriptions; and the use of commercial names for medicines that do not have many active ingredients, give rise to additional unworthy cash costs of treatment for patients. These shortcomings need specific

and timely remedial measures aimed at using medicines safely, reasonably and economically. Additionally, in recent years, some medical facilities have neither paid significant attention to the patient conditions nor improved the quality of medical examination and treatment. Moreover, the patient opinions about the price of medical services and the quality of health services are inadequate.

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SUBJECTS AND METHODS

1. Subjects.

The study was carried out on 11 public health facilities to practice medical outpatient care in Cantho city from 09 - 2016 to 03 - 2017. Research subjects were patients who go to outpatient examination at a medical facility, agreeing to participate in research, outpatient prescriptions with health insurance during the study period, list of essential drugs, list of major drugs at investigated health facilities.

2. Methods.

Follow the prospective method: take a prospective sample by collecting patient data for treatment on the day of the study. Sample size was 4,046 prescriptions and

corresponding patients were interviewed at 11 research clinics. Samples were analyzed based on comprehensive indicators and drug use: the average number of prescription drugs in a single prescription; average cost of each prescription; the proportion of medicines prescribed by generic names or international names (except for multi-ingredient medicines which may be prescribed according to trade names according to the Health Ministry's regulations); the rate of prescriptions and drug costs for antibiotics, injections, vitamins, corticosteroids, essential drugs, and the major drugs; as well as the rate of patients satisfied with health care services.

Statistical analysis: The data was processed and analyzed by SPSS 20.0.

RESULTS AND DISCUSSION

1. The average number of prescription drugs in a single and the average cost of each prescription.

Table 1:

Number	Health facilities	Number of prescribed drugs	Average cost (VND)	p
1	Cantho Central General Hospital	4.19	237,874.78	0.000
2	Cantho General Hospital	4.38	144,078.61	
3	CTUMP Hospital	3.84	73,589.39	
4	Thotnot General Hospital	4.62	51,834.55	
5	Omon General Hospital	4.00	69,002.01	
6	Binhthuy Medical Center	4.45	54,827.93	
7	Codo Medical Center	5.25	65,891.64	
8	Cairang Medical Center	4.43	66,775.29	
9	Phongdien Medical Center	5.62	54,022.61	
10	Thoilai General Hospital	5.41	70,142.98	
11	Vinhthanh General Hospital	4.12	49,673.23	
Average		4.56	88,737.71	

There was a significant difference in the number of prescribed drugs between 11 hospitals ($p = 0.000 < 0.05$). The average number of prescribed drugs for each patient was 4.56, which was higher than the WHO recommendation's value and the research's findings in Iran with 3.07 drugs per prescription [7], but lower than the findings at the North Indian Medical University Hospital, in which the average number of drugs per prescription

was 5 [5]. Overprescribing drugs will cause wasting money.

Comparing the average cost of a prescription at 11 hospitals in the above result table showed a significant difference with the average of 88,737.71 VND per prescription, which was higher than that in a study in Iran of 1.6 USD (about 32,000 VND) [7]. In our opinion, this cost was reasonable and suitable, contributing to reducing medical costs.

2. The proportion of prescribed drugs by generic name and international name.

Table 2:

Number	Health facilities	Number of prescribed drugs	p
1	Cantho Central General Hospital	99.17	0.000
2	Cantho General Hospital	99.86	
3	CTUMP Hospital	100.0	
4	Thotnot General Hospital	99.52	
5	Omon General Hospital	100.0	
6	Binhthuy Medical Center	99.88	
7	Codo Medical Center	100.0	
8	Cairang Medical Center	71.66	
9	Phongdien Medical Center	100.00	
10	Thoilai General Hospital	99.71	
11	Vinhthanh General Hospital	99.93	
Average		98.67	

A number of medical examinations and treatment facilities implemented drug prescription with generic name and international name, which reached 100% on the surveyed samples. The average results for this survey reached 98.67%. 10 out of 11 health facilities possessed the rate of over 99%, which was lower than WHO recommendation's rate of 100%.

This result was also similar to the study in Ethiopia (98.3%) (2014) [5], but higher than the survey in Sudan (43.2%) [6] and in West India (6.67%) [8]. Regular use of the original name of medicines will help prescribers to use their knowledge about the basic pharmacological effects of the drug to optimize and avoid confusion in prescribing.

3. The proportion of prescriptions including antibiotics or injections, and the rate of drug costs for antibiotics or injections.

Table 3:

Number	Health facilities	Antibiotic ratio (%)	Antibiotic cost (%)	Injection ratio (%)	Injection cost (%)	p
1	Cantho Central General Hospital	15.1	5.96	1.4	0.54	0.000
2	Cantho General Hospital	6.7	3.17	3.1	2.34	
3	CTUMP Hospital	17.0	12.21	1.0	1.03	
4	Thotnot General Hospital	29.4	16.93	0.3	0.28	
5	Omon General Hospital	47.1	23.93	0.1	0.11	
6	Binhthuy Medical Center	17.6	9.84	0.0	0.0	
7	Codo Medical Center	51.0	21.12	0.0	0.0	
8	Cairang Medical Center	27.0	17.79	0.0	0.0	
9	Phongdien Medical Center	34.3	12.35	0.0	0.0	
10	Thoilai General Hospital	70.8	40.09	0.3	0.22	
11	Vinhthanh General Hospital	27.3	14.06	0.0	0,0	
Average		31.2	16.04	0.9	0.65	

The average of the prescription with antibiotics and injections were 31.2% and 0.9%, respectively. Antibiotics and injections accounted for the average rates of 16.04% and 0.65% in the cost of the prescription. All four prescription rates showed significant difference with $p < 0.05$. This rate was higher than the WHO recommendation's value (20 - 26.8%), but lower than the result in Iran (45%) [7]. However, the difference between our

study and WHO's value was not significant and were still suitable for the treatment regimen. There were 0.9% prescriptions containing injection drugs, corresponding to 0.65% of the total value of price, which was much lower than the research finding by Muhamad Shoab Akhtar (8.4%) [3]. This contributed to reducing the cost of treatment because almost injections are very expensive.

4. The proportion of prescriptions with vitamin or corticosteroide, and the rate of drug costs for vitamins or corticosteroids.

Table 4:

Number	Health facilities	Vitamin ratio (%)	Vitamin cost (%)	Corticoid ratio (%)	Corticoid cost ratio (%)
1	Cantho Central General Hospital	10.1	0.42	22.5	3.01
2	Cantho General Hospital	22.9	2.38	8.8	2.43
3	CTUMP Hospital	32.0	1.25	12.0	3.37
4	Thotnot General Hospital	21.7	3.44	6.3	1.16
5	Omon General Hospital	14.5	0.81	14.1	1.39
6	Binhthuy Medical Center	19.9	1.45	8.1	1.90
7	Codo Medical Center	22.5	0.55	12.0	1.84
8	Cairang Medical Center	20.9	3.46	12.3	0.84
9	Phongdien Medical Center	46.2	2.36	22.8	1.27
10	Thoilai General Hospital	52.5	4.19	16.7	1.67
11	Vinhthanh General Hospital	26.6	3.89	11.2	1.05
Average		25.4	2.33	12.4	1.73
p		0.000	0.000	0.000	0.004

The average prescription rate of vitamin and corticosteroids was 25.4%. The average cost of vitamin accounted for 2.33% of the total cost. These results were lower than that of Nam Le Thi Be's research at Vinh Long General Hospital in 2015 (36.14%) [1], but higher than Lanlan Bhavesh K's study (24.44%) [4].

The rate of prescriptions with corticosteroide is stable, accounting for an average of 12.4% of drugs and 1.73% of

costs. All four indicators showed the significant difference with $p < 0.005$, which was higher than the amount of a study in Java Island, Indonesia (7.4%) [9], and lower than the results observed in the Quang Nam Central General Hospital (2013) (21.25%) [2]. It is necessary to improve the management mechanisms in checking and monitoring prescription in order to limit the prescription of vitamins and unnecessary corticosteroids.

5. The proportion of prescribed drugs included in the list of essential drugs and the list of main drugs issued by the Ministry of Health and the proportion of expenses for essential drugs and main drugs.

Table 5:

Number	Health facilities	Essential drug (%)	Main drugs (%)	Essential drug (%)	Main drug costs (%)	p
1	Cantho Central General Hospital	21.88	68.57	11.86	66.46	0.000
2	Cantho General Hospital	40.07	65.34	26.95	59.41	
3	CTUMP Hospital	34.27	72.46	23.43	70.35	
4	Thotnot General Hospital	50.22	65.01	34.28	61.18	
5	Omon General Hospital	35.11	47.95	30.13	42.25	
6	Binhthuy Medical Center	50.77	62.14	47.47	62.47	
7	Codo Medical Center	37.53	61.06	25.16	52.30	
8	Cairang Medical Center	51.16	65.64	47.50	65.83	
9	Phongdien Medical Center	50.89	69.93	37.63	61.70	
10	Thoilai General Hospital	34.64	69.01	30.61	69.65	
11	Vinhthanh General Hospital	57.93	65.80	47.62	62.76	
Average		41.99	63.07	31.83	58.75	

Essential drugs were used with an average of 41.99%, while the value was 63.07% with the main drug. The expenses proportion of essential drugs and main drugs were 31.83% and 58.75%, respectively. The difference is statistically significant at all factors ($p < 0.005$), which did not attain to WHO recommendations, and was much lower than the Sudanese survey's finding of 92.7% (2014) [6] and Ethiopia survey's finding of 100% (2014) [5]. This low rate did not affect the overall goal of reducing treatment costs, because 100% of the research cases were covered by health insurance, but it is also necessary to closely monitor this rate.

CONCLUSION

The average number of drugs in a prescription was 4.56 and the cost was 88,737.71 VND. The proportion of prescription medicines by generic name was 98.67%. The rate of application and cost of antibiotics were 31.2% and 16.04%, that of injections were 0.9% and 0.65%, that of vitamins were 25.4% and 2.33%, that of corticosteroids were 12.4% and 1.73%, that of essential drugs were 41.99% and 31.83%, and that of main drugs were 63.07% and 58.75%, respectively. The score of patients satisfied with health care services was 3.92.

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