



Short Communication

RISK FACTORS ASSOCIATED WITH OUTPATIENTS ADHERENCE IN TAKING REFILL OF ORAL HYPOLICAEMIC DRUGS IN THE PRIVATE AND GOVERNMENT HOSPITALS, INDONESIA

PERWITASARI DA, LAMYA E SHAFI, EKA Y SUTMONBARA, WORO SUPADMI

Pharmacy Faculty, Ahmad Dahlan University, Yogyakarta, Indonesia. E mail : diahperwitasari2003@yahoo.com

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ABSTRACT

Background. In the developed countries, patients' adherence in long term therapy of chronic diseases was not more than 50%. Patients' adherence is needed to get the effectivity of therapy, especially in chronic diseases. This study was aimed to know the risk factors which could affect the patients' adherence in taking the refill oral of hypoglycaemic in private and government hospital in Indonesia.

Methods. We carried out this study by cohort prospective design during two months. Data was analyzed descriptively to know the risk factors which could affect patients' adherence in taking refill of oral hypoglycaemia in two hospitals. We will discuss the differences risk factors between private and government hospital.

Results. There were no differences number of male and female patients in both hospitals. Most of the patients were 56-90 years old and they received more than one drug in both hospitals. Respectively, age, gender and number of drugs were not being the risk factors of refill adherence in hospital. Nevertheless, the age of 21-55 years old in private hospital was the risk factors of refill adherence with 2.93 of RR (CI 95%, 1.27-6.76).

Conclusions. Gender and the number of drugs were not associated with refill adherence in both hospitals. In the other hand, the age of patients could be the predictor of refill adherence in private hospital

Keywords : Adherence, Oral hypoglycaemic drugs, Private hospital, Government hospital, Indonesia

INTRODUCTION

Adherence consists of initial acquisition of medication, consumption of medication in the prescribed method, acquisition of refills, monitoring of disease progression and keeping appointments with physician¹. WHO reported that the patients' adherence to long term therapy of chronic disease in developed countries was not more than 50% in 2003. Patients' non adherence could have negative impact in the effectivity of therapies in diabetes melitus, asthma, hypertension, cancer, mental disorder, HIV and tuberculosis².

The use of oral hypoglycaemic drugs can prevent the complication of diabetes, increase patients' quality of life and reduce health care cost³⁻⁶. The previous study about refill adherence in oral hypoglycaemic in Canada showed that the mean of refill adherence rate was about 84%. Patients who had medications with "once a day" regimen prove good refill adherence. Nevertheless, patients receiving biguanids were not more adhere than patients receiving first generation of sulfonilurea. The high cost of biguanid and multiple dose of biguanid in a day aware the reasons for non adherences¹.

Indonesia is the fourth level of the most number diabetes melitus sufferer after India, China and United States. In 2025, the diabetes melitus sufferer will reach 12.4 million⁷. Therefore, this study was aimed to know the risk factors which could affect the patients' adherence in taking the refill oral of hypoglycaemic in private and government hospital in Indonesia.

MATERIAL AND METHODS

We conducted cohort prospective design with diabetes melitus patients who got oral hypoglycaemic drugs as the subjects. We recruited the patients during two months in a private hospital and a government hospital. Refill adherence was measured from the number of drugs which were prepared by the pharmacist, the number of drugs at the end of the date that they should take the refill. We also recorded the date they picked up the drugs and the date they bought the refill.

Data were analyzed by bivariate analysis to know the association between refill adherence and risk factors, such as; age, gender, and

the number of drugs. The multivariate analysis would be carried out to know the most risk factor influenced refill adherence. We would compare the risk factors of refill adherence in private and government hospital descriptively.

RESULTS AND DISCUSSION

We recruited 100 diabetes mellitus patients in each hospital. There were no differences number of male and female patients in both hospitals. Most of the patients were 56-90 years old and they received more than one drug in both hospitals. The characteristic of risk factors were listed in table 1.

We observed in this study that the female patients had a better refill adherence in both hospital than the male patients. We did not get the occupation data of the patients, but this fact could be caused by most of female in Indonesia were housewives, therefore they had enough time to get informations and educations from the physician about their disease, the effectivity of the drug also the side effect of the drug. In the other hand, the male could not get enough information about their diseases, because they were busy to work.

As we know that, the adherence need patients agreement to the recommendations or the therapy. Therefore, the patients should have enough time to get information and education from the physician to reach the agreement. Patients should be educated about their illness, their motivation to manage it, their self-confidence, their ability to engage in illness-management behaviours, and their expectations regarding the outcome of treatment and the consequences of poor adherence. Interacting ways have not yet fully understood to influence adherence behaviour².

The age, gender and number of drugs were not being the risk factors of refill adherence in hospital. Nevertheless, the age of 21-55 years old in private hospital was the risk factors of refill adherence with 2.93 of RR (CI 95%, 1.27-6.76). Descriptively, the better refill adherence was seen on female patients, 21-55 years old and patients receiving more than 1 drug in both hospitals. Bivariate analysis of the risk factors was listed in table 2.

Table 1: Characteristic of the risk factors

	Private Hospital (%)	Government Hospital (%)
Gender (n=100)		
Male	50	50
Female	50	50
Age (n=100)		
21-55 years old	47	43
56-90 years old	53	57
Number of drugs (n=100)		
1	33	46
More than 1 drug	67	54

Table 2: Bivariate analysis of risk factors and refill adherence

Risk factors	Refill adherence in		RR (CI, 95%)	
	Private Hospital (%)	Government hospital (%)	Private Hospital	Government hospital
Gender				
Male	27	21	0.66	0.07
Female	32	30	(0.29-1.47)	(0.47-1.04)
Age				
21-55	34	26	2.93	0.22
56-90	25	25	(1,27-6,76)	(0.88-1.87)
The number of drugs				
1	17	21	0.63	0.61
More than 1	42	31	(0,27-1,47)	(0.76-1.62)

There were no associations between gender and refill adherence. This result was consistent with previous study in Swedish pharmacies with long term pharmacotherapy, diabetes mellitus patients in Canada also patients in rural population^{1,8,9}.

Patients with age of 21-55 years old had better adherence than the older patients in both hospitals. Nevertheless, in private hospital, there was association between younger patients and good refill adherence. This result was consistent with previous study in hypertension patients, study in rural population, study in diabetes mellitus patients^{1,9,10}. In the other hand, there was no association between age and the adherence in government hospital. This difference between the two hospitals could be caused by the professionalism of the physician or the pharmacist.

Patients receiving more than 1 drug had good refill adherence in both hospital. There was no association between the number of drugs received and refill adherence. This result was contrary with previous study in rural population which the number of drug taken had negative impact to the adherence⁹. The education and information from the physician can increase patients' adherence, even though they received more than 1 drug.

We also observed the reasons of patients' non adherence by interview. Most of them talked about forgetfulness, drugs' side effect and high cost of drugs.

This study must be confirmed with future studies which will include other risk factors such as education, occupation, socio-economic, length of therapy, category of drug and with larger sample size.

CONCLUSION

Gender and the number of drugs were not associated with refill adherence in both hospitals. Whereas, the age of patients could be the predictor of refill adherence in private hospital.

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