THE RELATIONSHIP BETWEEN PRESCRIPTION PATTERN AND DRUG COST AT COMMUNITY HEALTH CENTER AND PRATAMA CLINIC IN THE NATIONAL HEALTH INSURANCE PROGRAM

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ABSTRACT

Background: In the National Health Insurance (NHI) era, the payment system at Primary Health Care (PHC) changed from direct payment (out of pocket payment) to pre-paid system (capitation). The amount of capitation varied by PHC type, with drug as a financing component of capitation. The prescription pattern will affect the amount of drug cost. This study aimed to investigate the relationship between prescription pattern and drug cost at community health center (Puskesmas) and Pratama clinic in NHI program.

Subjects and Method: A cross-sectional study was conducted at a Puskesmas and a Pratama clinic in Bandung, West Java. A total of 800 prescriptions was selected for this study. The dependent variable was prescription pattern. The independent variables were drug cost, and national formulary. The secondary data were collected from the study of drug cost at PHC conducted by the Ministry of Health in 2017. The data were analyzed descriptively.

Results: The average number of drug type per prescription at Puskesmas and Pratama clinic were 3.2 and 2.8, respectively. The prescription compliance with the national formulary at Puskesmas and Pratama clinics were 86.85% and 51.13%, respectively. The average costs at Puskesmas and Pratama clinics were Rp 5,586 and Rp 21,630, respectively, and this mean difference was statistically significant ($p < 0.001$). The proportion of drug costs compared to capitation funds were 4.35% and 21.55%. The 5 most used drugs at the Puskesmas were paracetamol, chlorpheniramine, cicyclic glyceril, antacids, and vitamin B complex. At Pratama clinic the 5 most used drugs were paracetamol, amoxycillin, expectorant, antacids, and omeprazole.

Conclusion: There is a relationship between prescription compliance with national formulary and average drug cost. The average percentage of drug cost to capitation at Puskesmas is lower than Pratama clinics.

Keywords: drug cost, prescription pattern, capitation, primary care

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BACKGROUND

In the JKN era, there was a change in the payment system for First Level Health Facilities (FKTP) from direct payments (fee for service) to advance payments (capitation). The capitation fund is the amount of monthly payment paid in advance to FKTP (puskesmas and pratama clinics) based on the number of participants registered regardless of the type and number of health services provided. The capitation funds received by FKTP from the Health Social Security Administration Agency (BPJSK) are used entirely for payment of health services and support for operational costs of health services, one of which is used for medicine (Ministry of Health, 2016).

Drug procurement at the Puskesmas is carried out by district / city health offices which must refer to the National Essential Medicines List (DOEN) and the National Formulary (Ministry of Health, 2016). The

National Formulary (Fornas) is a list of medicines compiled by the national committee based on the latest scientific evidence which is efficacious, safe, and at an affordable price that is provided and used as a reference for the use of drugs in national health insurance (Ministry of Health, 2013). Use of drugs based on the list of available essential medicines can increase the efficacy, safety and low cost of treatment (WHO, 2014).

Prescribing drugs for JKN patients in primary health centers and clinics must be in accordance with the National Forum. Based on research, the higher the percenttage of the suitability of recipes with nationnal formulary, the better the quality of pharmaceutical installation services (Winda et al, 2017). However, WHO estimates that there are around 50% of all inappropriate drug use in prescribing, preparing and selling them. These problems include increased morbidity and mortality, increased incidence of side effects, drug interactions and waste (Hamsidi et al, 2016).

Based on the foregoing, in this study the researcher wanted to analyze the relationship between prescribing appropriateness with National Forum on drug costs, and how much capitation funds were used for drug spending at Puskesmas (PKM) and Pratama clinics (KP).

SUBJECTS AND METHOD

1. Study Design
This study was conducted in 2019 using quantitative secondary data methods from a study of drug costs at FKTP conducted by Ministry of Health in 2017. The design was cross-sectional. Based on these data, researchers conducted research at one of the public health centers and Pratama clinics in the city of Bandung. Research on the relationship between prescribing patterns and the cost of prescription drug medication at the Puskesmas and Pratama Clinic during the JKN era was conducted at 1 Puskesmas and 1 Pratama clinic in the city of Bandung, West Java Province.

2. Population and Sample
The subject of the research was the secondary data of JKN patient prescriptions in 2017 which was carried out by purposive sampling of 800 prescription sheets.

3. Inclusion and Exclusion Criteria
The inclusion criteria of this study were prescription JKN patients in 1 Puskesmas and 1 pratama clinic in collaboration with BPJSK. Each puskesmas and pratama clinic were taken as many as 384 prescriptions over a period of 1 (one) year. The exclusion criteria for this study were the unavailability of complete patient prescriptions and patient prescriptions whose names were not readable.

3. Variables
The dependent variable in this study is the NHI program. The independent variable is the prescription pattern and drug costs at the Primary Health Center and clinic.

4. Instrument
The material of this study is the secondary data prescribed by JKN patients in Puskesmas and Pratama Clinic. The tool used in the study is a form made by researchers based on the Regulation of the Social Health Insurance Agency Number 2 of 2015 concerning Norms for determining capitation amounts and capitation payments based on fulfilling service commitments at FKTP and Decree of the Minister of Health of the Republic of Indonesia Number HK.01.07/MENKES/65-9/2017 concerning the National Formulary.

RESULTS
Based on the results of the study conducted, it can be seen in table 1 that the suitability of drugs with Fornas in Community Health Center is higher than that of pratama clinics, namely 86.85% and 51.13%. Whereas the average result of the cost of prescription medication at the clinic

was lower than that of the pratama clinic, which was Rp. 5,586.17 and Rp. 21,630. For the proportion of drug costs to the capitation fund at the Pratama Clinic it is higher at 21.55% compared to Community Health Center at 4.35%.

Table 1. Average number of drug items per prescription sheet, percentage of prescribing compliance with Fornas, average cost per prescription sheet and proportion of drug costs to capitation funds

	FKTP	
	PKM	KP
The average number of drug items per prescription sheet:		
Number of recipes	400	400
Number of medicine	1278	1146
Average drug items per prescription sheet	3.2	2.8
Percentage of drug prescribing compliance with Fornas:		
Number of recipes	400	400
The number of drug items according to Fornas	1110	586
The number of non Fornas drug items		
Total drug items	168	560
Drug compatibility with Fornas	1278	1146
Average drug cost per prescription sheet:	86.85%	51.13%
Number of recipes		
Total drug costs (Rp)		
Medication costs per prescription medication	400	400
Proportion of drug costs to capitation funds:	2,234,466.76	8.652.226,30
JKN patient / month	5,586.17 ±4,812.12	21.630,57±36.106,75
Capitation / participant (Rp)		
Number of recipes / month	35740	43857
Drug / prescription fee (Rp)	6,000	10,000
Amount of capitation (Rp)	7252	4369
The proportion of drug costs to capitation	9,333,324	94,501,470
	214,440,000	438,570,000
	4.35%	21.55%

Table 2. Types of drugs most widely used based on the ATC code in Primary Health Centers and Clinics in the City of Bandung

No	Public Health Center			Primary Clinic		
	ATC Code	Group of ATC level 4	Drug's Name	ATC Code	Group of ATC level 44	Drug's Name
1	NO2BE	Analides	Paracetamol	NO2BE	Analides	Paracetamol
2	RO6AB	Substituted	Klorfeniramin maleat (CTM)	JO1CA	Penicillins with extended spectrum	Amoxicillin
3	RO5CA	Expectoran	Gliceril Guaiakolat (GG)	RO5DA	Opium Alkaloids and derivates	Expectorant
4	AO2AD	Magnesium	Antacids	AO2AD	Magnesium	Antacids
5	A11AE	Vitamin	Vitamin B com	Ao2BC	Proton pump inhibitor	Omeprazole

The type of drug that is most widely used based on ATC code level 4 group at the Community Health Center and pratama clinic is the same, namely analides or with the name of the drug paracetamol.

DISCUSSION

The World Health Organization stipulates that the patient prescribing indicator in Indonesia is 3.3 drug items (WHO, 1993). From the results of a research analysis in the primary health centers and pratama clinics, the average item per prescription medication or per patient was 3.2 and 2.8 drug items. Based on these results, infiltration in primary health centers and clinics is in accordance with WHO indicators and there is no polypharmacy or can be said to be rational.

The World Health Organization sets the indicator for the percentage of prescribing according to the list of essential drugs or formularies is 100% (WHO, 1993). From the results of a research analysis at the Puskesmas and Pratama clinics, none of them correspond to WHO indicators, the percentage of prescribing conformity with the National Forum at Puskesmas and Pratama clinics is 86.85% and 51.13%. These results indicate that the Pratama clinic has a very low percentage level compared to WHO indicators.

The incompatibility of prescribing with FORNAS at the puskesmas reaches 13.15%, this shows that some drugs used at the puskesmas still use non-generic drugs or drugs with trade names that are purchased using capitation funds. In the Pratama clinic, the use of drugs outside the National Forum is also still widely used at 48.87%. This is because in pratama clinics, almost all of the drugs used are drugs with trade names or non-generics.

Research shows that the use of drugs outside FORNAS because doctors consider that FORNAS has not completed all the drugs needed by patients so that they provide other drugs which he thinks are far better (Febriawati et al, 2017). Azayzih's study (2017) states that the most common problem is that the percentage of generic drug use is lower compared to the ideal value according to WHO. The results of other studies stated that the incompatibility of prescribing drugs to formulary can result in decreased service quality and the cost of drugs used inefficiently (Hanifa, 2017).

The average cost of drugs per prescription sheet at the Pratama clinic is greater than the puskesmas at Rp. 21,630 and the puskesmas at Rp. 5,586. This is related to the use of FORNAS drugs in the low-level pratama clinic, which is only 51.13% (<80%). Another thing is because Pratama clinics have not been able to make full use of e-catalogs for drug procurement. Pratama clinics use many drugs with trade names that cost far more than generic drugs.

The proportion of drug costs to capitation funds at the Pratama clinic is higher at 21.55% compared to puskesmas at 4.35%. The cost of drugs in the clinic is higher because the drugs used are mostly bought not through e-catalogs and are drugs with trade names. Procurement of drugs at the Pratama clinic only comes from capitation funds, a proportion of drug costs that is quite high compared to the total capitation can affect the efficiency of clinical management and can cause losses to the clinic because capitation funds will be used up for drug expenditure.

The proportion of drug costs to the capitation fund at the puskemas is relatively small, because in general the procurement of drugs at the puskesmas still uses APBD or DAK funds. The use of capitation funds for drug shopping is usually used for drugs outside the National Forum or drugs in the National Forum, but the allocation is not for Puskesmas. Drugs that are outside National forums that may be used are usually to meet the medical needs of patients who are deemed necessary by the doctor.

The small proportion of capitation funds used for the procurement of medicines causes that many capitation funds for the procurement of drugs and medical supplies

remain in the puskesmas account. It is necessary to consider the optimal utilization of capitation funds, one of which can be used to improve the quality of care for patients. It also can improve the function and role of pharmacists in pharmaceutical services.

The most common use of drugs in primary health centers and clinics in Pratama is similar to the use in Pratama clinics. From the results of the analysis of this study, the most use in primary health clinics and pratama clinics is paracetamol. Vitamins are also widely prescribed in health centers, this is related to the national pattern of disease, namely upper respiratory tract infections being first, prescribing vitamins is intended to increase endurance. In addition, CTM and GG are also widely prescribed in puskesmas, possibly in puskesmas still using concoctions with the composition of CTM and GG. Unlike the case with the Pratama clinic, they use expectorants to treat cough.

In pratama clinics, antibiotics such as amoxicillin are still widely used, for this reason it is necessary to monitor and evaluate the use of antibiotics related to antibiotic prescribing according to diagnosis. This aims to avoid an increase in antibiotic resistance.

The use of omeprazole is also widely prescribed in the Pratama clinic, it is likely that omeprazole is used for gastritis cases which are ranked 4th in the top 10 most patterns of disease in the city of Bandung.

Socialization of rational use of drugs can also be carried out at private FKTP serving BPJS patients. So that patients get safe drugs and at the same time improve the efficiency of drug financing for the manage-ment of health facilities.

There are still many limitations in the analysis of this study, including the average number of drugs per sheet prescription or patient. Bogle and Harris (1994) state that the number of drug items is not suitable as a measure of prescription volume and a mea-sure is needed based on a standard daily dose or Define Daily Dose (DDD) of each drug used. In addition, in the analysis of this study also unknown patterns of the most diseases in the Primary Health Center and Clinic to synchronize the use of the most drugs in the Primary Health Care Center and Clinic.

From the results of the study, it can be concluded that there is a relationship between the suitability of prescribing with National Forum on the average drug costs at the Puskesmas and Pratama Clinic. The average percentage of drug costs to capitation in puskesmas is lower than that of pratama clinics.

From the results of the study, it is necessary to monitor and evaluate FKTP in terms of prescribing conformity with Fornas, so as to increase efficiency in drug spending.

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