

Analysis of the Factors that Lead to A Discrepancy in Hospital Incomes in Cases of Childbirth by Caesarean Section as Those of the National Healthcare Insurance Patient at the Putra Waspada Hospital Tulungagung

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ABSTRACT

The hospital as an advanced health facility collaborates with National Healthcare Insurance Patients (BPJS) using the INA-CBG'S package tarif grouping payment method so that quality control and cost control must be carried out. One of the diagnoses whose costs can be guaranteed with BPJS is childbirth with Caesarean Section. The number of Caesarean Section is increasing from year to year and most of the patients are BPJS patients. From the Putra Waspada Hospital Financial Report, there is a negative difference in revenue receipt from Caesarean Section BPJS Patients. The aim of this research is to analyze the factors causing the difference in income revenue hospital in cases of Caesarean Section delivery for National Health Insurance Patients at Putra Waspada Hospital Tulungagung. The sample for this study was 250 medical records of patients who gave birth by caesarean section from January to December 2023. The data source used was secondary data with a stratified random sampling technique. Research analysis used SPSS with multiple linear regression tests. From the research the result showed: 1) Severity Level does not influence the discrepancy in hospital income with p value > 0.05 2) Class of treatment influences the discrepancy in hospital incomes with p value < 0.05 3) Appropriateness of the type of drug according to the National Formulary influences the discrepancy in hospital income with p value < 0.05 4). Length of stay influence the discrepancy in hospital income receipt with p value < 0.05 5). Clinical Pathway Compliance by Profesional Healthcare Providers influences the discrepancy in hospital income with p value < 0.05. Therefore, quality control and cost control must be improved in order to provide complete health services based on quality and patient safety in addition to minimizing negative difference in revenue hospital income.

Keywords: BPJS, class of treatment, national formulary, sectio caesarea, severity level

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BACKGROUND

Everyone has the right to the National Health Coverage by the Constitution of 1945(UUD,1945). The hospital as an advanced health facility collaborates with National Health Care Insurance Patient (BPJS) using the INA-CBG's package tarif grouping payment method so that quality control and cost control must be carried out. One of the diagnoses whose cost can be guaranteed with BPJS is childbirth by Caesarean Section. (Permenkes 3, 2023).

One of the diagnoses whose cost can be guaranteed by BPJS is childbirth by Caesarean Section. Caesarean Section is the process of childbirth or the process of removing a baby from the womb of the mother without going through the birth canal or vagina but rather surgery is carried out in the mother's stomach(laparotomy) and the uterus (Hysterotomy) of the mother (Hanretty K, 2010).

Caesarean Section is aimed to saving the mother and child in high risk pregnancies (Andayasari,2012). Giving birth by Caesarean Section requires high treatment cost and cases of giving birth by Caesarean Section are increasing from year to year in developed and developing countries. United States of America 4.5% 1970 to 31.8% 2007 (Cunningham et al, 2016), England 9% 1980 to 24% 2005 (National Institute for Health and Clinical Excellence, 2024), RSIABDT Jakarta 2020 66.3% to 67.9% 2021 (Hayati et al,2023). Based on the maternity ward register at Putra Waspada Hospital Tulungagung in 2021 Caesarean Section rate was 81%,increased in 2022 82% and still increased in 2023 83% (Maternity Ward Register Putra Waspada Hospital, 2023).

There is a negative difference in revenue receipt from Caesarean Section BPJS patients from the Putra Waspada Hospital Financial report.

From the above background,researchers are interested in conducting research analysis the factors that lead to a discrepancy in hospital incomes in cases of childbirth by Caesarean Section as those of the National Health Care Insurance patient at the Putra Waspada Hospital Tulungagung.

METHODS

This research design is a quantitative research using a case control analytical study. The independent variables in this study are Severity level, National Health Insurance Patient Classes, Appropriateness of the type of drug according to the National Formulary, Length of stay and Clinical pathway compliance by professional healthcare providers. The dependent variable in this research is hospital income discrepancy. The research instrument is data collection sheet.

The population in this study were all medical record of patients who gave birth by Caesarean Section at the Putra Waspada Hospital Tulungagung from January to December 2023 to 636 medical records patients, the samples were taken using the Stratified Random Sampling method and taken based on number Krejcie Morgan table number 250 of the patient medical records. Statistical tests for both variables used the Multiple Linier Regression.

RESULTS

Characteristics of Respondent

Data from the following research results describe the distribution and characteristics of respondents from each group including age, education, occupation, severity level, national health insurance patient classes, influence of appropriateness of the type of drug according to the National Formulary, length of stay and influence of clinical pathway compliance by professional healthcare providers which are presented in the following table.

Table 1. Characteristics of Respondens

No.	Variabel	Frekuensi (n)	Persentase (%)
1.	Age		
	<25 year	57	22.8%
	26-35 year	168	67.2%
	>35 year	25	10%
2.	Education		
	Elementary School	6	2.4%
	Junior High School	10	4.0%
	Senior High School	122	48.8%
	Diploma/Bachelor /Doctor	112	44.8%
3.	Employment		
	Self employed	121	48.4%
	Housewife	82	32.8%
	Teacher	31	12.4%
	Health Worker	16	6.4%
4.	Severity Level		
	Mild	214	85.6%
	Moderate	36	14.4%
5.	National Health Insurance Patient Classes		
	First	34	13.6%
	Second	84	33.6%
	Third	132	52.8%
6.	Appropriateness the type of drug according to the National Formulary		
	In accordance	146	58.4%
	Not In accordance	104	41.6%
7.	Length of Stay		
	2 days	25	10%
	3 days	152	60.8%
	4 days	67	26.8%
	>=5 days	6	2.4%
8.	Clinical Pathway Compliance by Profesional Healthcare providers		
	Obedient	78	31.2%
	Not Obey	172	68.8%

Sourced: Second Data 2023

Based on data characteristics of respondents, it is known that the majority respondents are aged 26-35 years 168 patients (67.2%), Regarding education majority Senior High School 122 patients (48.8%), Employment majority self employed 121 patients (48.4%), Severity level almost mild 214 patients (85.6%), National Health Insurance patients Classes majority Third Classes 132 patients (52.8%), Appropriateness the type of drug according to the National Formulary majority in accordance 146 patients (58.4%), Length of stay majority 3 days 152 patients (60.8%), Clinical Pathway Compliance by Profesional Healthcare Providers majority not obey 172 patients (68.8%).

Analysis of the Factors that lead to a discrepancy in hospital incomes in cases of childbirth by Caesarean Section as those of The National Healthcare Insurance Patient at The Putra Waspada Hospital Tulungagung

Table 2. Factor-Factor that lead to a discrepancy in hospital incomes in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance Patient at the Putra Waspada Hospital Tulungagung.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.786	0.618	0.608	306.87882

In the table above it can be seen that the adjusted R square is 0.608 so that it can be concluded that the severity level, class of treatment, appropriateness of the type of drug according to the National Formulary, Length of stay, and Clinical Pathway Compliance influence the discrepancy in hospital income in cases of childbirth by Caesarean section as those of the National Healthcare Insurance patient at the Putra Waspada Hospital Tulungagung amounted to 60.8 percent, while 39.2 percent of the discrepancy in hospital income was influenced by other variables not studied.

Model	Unstandardized Coefficients	Standardized Coefficients	Sig.
	B	β	
(Constant)	735.741		.000
Moderate Severity Level	-32.556	-.023	.565
First Class of Treatment	-124.695	-.088	.050
Third Class of Treatment	119.929	.122	.005
Appropriateness of the type of drug according to the National Formulary	-434.934	-.437	.000
Length of Stay	121.813	.161	.000
Clinical pathway compliance by professional healthcare providers	-358.772	-.341	.000

In the table above hypothesis can be drawn:

1. Severity level p value 0.565 more than 0.05 does not influence the discrepancy in hospital income.
2. Class of treatment:
 - a. First Class of treatment p value 0.05 less than equal 0.05 influence the discrepancy in hospital income. First Class of treatment reduces the difference in hospital revenue receipt by 93.9%
 - b. Second Class of treatment influence the discrepancy in hospital income. Second class of treatment increases the difference in hospital revenue receipt by 31.36%
 - c. Third Class of treatment p value 0.005 less than equal 0.05 influence the discrepancy in hospital income. Third class of treatment increases the difference in hospital revenue receipt by 151.29%
3. Appropriateness of the type of drug according to the National Formulary p value 0.000 less than equal 0.05 influence the discrepancy in hospital income.
4. Length of stay p value 0.000 less than equal 0.05 influence the discrepancy in hospital income.
5. Clinical pathway compliance by profesional healthcare providers p value 0.000 less than equal 0.05 influence the discrepancy in hospital income.

DISCUSSION

The influence of Severity Level to a discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance Patient At The Putra Waspada Hospital Tulungagung

In this study the severity level does not influence the discrepancy in hospital income in cases of childbirth Caesarean Section.

According to Minister of health 3 of 2023 Severity level is one of the things that causes the INA-CBG's claim rate for each main group case to different according to the level of Severity of the disease case (Permenkes 3,2023).

This is because if the severity level increases the INA-CBG's package claim paid by BPJS also increases, so that the unit cost incurred by hospital which are more at the moderate severity level can be covered by the higher claims paid by BPJS at the moderate severity level.

In research conducted by Duarsa et all in 2019 at RSIA Bunda Liwa, West Lampung,the result of calculating the unit cost of Caesarean Section procedures without complications in all class of treatment and Caesarean Section procedures with complication in classes 1 and 2 at RSIA Bunda Liwa, West Lampung were still at below the INA-CBG's rate is only SC procedures with class 3 complications which are above the INA-CBG's rate (Duarsa et all, 2019).

The influence National Health Insurance Patient Classes to a discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance Patient At the Putra Waspada Hospital Tulungagung

In this study class of treatment influence the discrepancy in hospital income in cases of Childbirth by Caesarean Section.

Class of treatments are class 1, 2 and 3 as non medical benefits in the form of inpatient service accommodation provided based on participant contributions.Class Category in BPJS health membership is a term that refers to the level that can be chosen by each participant according to their finansial capabilities because between classes 1, 2 and 3 have different contribution fees, this does not affect the medical services received by participants andi s guaranteed to be equal except for certain facilities (Permenkes 3, 2023).

First Class of treatment reduces the discrepancy in hospital income but second class dan third class of treatment increases the discrepancy in hospital income in cases of childbirth by Caesarean Section.

This is the same as research conducted by Pullu et all in 2022 at Prima Medika General Hospital Bali,which states that the factors causing the difference in hospital rates and INACBG's rates consist of the type of class treatment (Pullu et all.,2022).

The influence appropriateness the type of drug according to the National Formulary to a discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance Patient At the Putra Waspada Hospital Tulungagung

In this study appropriateness the type of drug according National Formulary influence the discrepancy in hospital income in cases of Childbirth by Caesarean Section.

The appropriateness of the National Formulary has the greatest negative effect on the discrepancy in hospital income incases of childbirth by Caesarean Section, meaning that the appropriateness of National Formulary drugs is the most influential factors on the discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance patient.

The benefit of the National Formulary are that it serves as a reference for determining drug use and increases the rational use of drugs. It can also control the quality and costs of treatment and optimize services to patients other than the National Formulary. It can also

facilitate planning and provision of drugs and increase the efficiency of health service budget (Sitanggang, 2013).

The influence Length Of Stay to a discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance Patient At the Putra Waspada Hospital Tulungagung

In this study length of stay influence the discrepancy in hospital income in cases of Childbirth by Caesarean Section.

The length of hospital stay has a positive effect on the discrepancy in hospital income in cases of childbirth by Caesarean section, where the longer the stay the greater the discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance patient.

This is in accordance with Mildawati's research in 2020 at Dr Moewardi Hospital, Surakarta that the factors that influence the real cost of caesarean section at Dr Moewardi Hospital Surakarta are Length of Stay (Mildawati et al, 2020).

The influence clinical pathway compliance by profesional healthcare providers to a discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance Patient At the Putra Waspada Hospital Tulungagung

In this study clinical pathway compliance by profesional healthcare providers influence the discrepancy in hospital income in cases of Childbirth by Caesarean Section.

The clinical pathway compliance by profesional healthcare providers has a negative effect on the discrepancy in hospital income, where the higher the clinical pathway compliance by profesional healthcare the lower the discrepancy in hospital income in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance patient.

This is in accordance with research conducted by Lin Dan Zhang et al in 2021 in China that Clinical Pathway significant reduce direct hospital (Lin Dan Zhang, 2021).

CONCLUSION

National Health Insurance Patient Classes, Appropriateness the type of drug according to the National Formulary, Length of stay and clinical pathway compliance by profesional healthcare provider influence the discrepancy in hospital income in cases of childbirth by Caesarean Section as those of National Healthcare insurance patient but Severity level does not influence the discrepancy in hospital income in cases of childbirth by Caesarean Section as those of National Healthcare Insurance patient at the Putra Waspada Hospital Tulungagung.

Severity level, National Healthcare Insurance Patient Classes, Appropriateness the type of drug,length of stay and clinical pathway compliance by profesional healthcare provider influence the discrepancy in hospital income incases of childbirth by Caesarean section as those of National Healthcare Insurance Patient at the Putra waspada hospital Tulungagung amounting to 60.8 percent, while 39.2 percent of the discrepancy influenced by other variables that were not studied, because the factors causing discrepancy are still wide so the next researcher can examine other variables such as percentage distribution of medical services, availability of hospital internal crew operation and others.

Quality control and cost control must be improved in order to provide complete health service based on quality and patient safety, in adition to minimizing discrepancy in hospital incomes in cases of childbirth by Caesarean Section as those of the National Healthcare Insurance patients.

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