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Analysis Of Deficits In Total Knee Replacement Cases At Siti Fatimah Hospital, South Sumatera

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ABSTRACT
Health is one of the basic human needs and is a right for every citizen that is protected by law. The form of the State's efforts in providing health services is by launching the National Health Insurance Program (JKN) through the Social Security Administration Agency. In practice, many cases experience a deficit related to costs incurred by the Hospital and costs obtained through INA-CBG's claims. The purpose of this study was to see if there were any adverse differences in the Total Knee Replacement case carried out at Siti Fatimah Hospital. This research was quantitative, descriptive research in hospital. Data collection was a total of 19 patients suffering from knee Osteoarthritis and who had to do Total Knee Replacement at Siti Fatimah Hospital from 2020-2023. The results of the study found that in every case of Total Knee Replacement the hospital always experienced a deficit. In average national healthcare system only reimbursed half of our cost. Further evaluation of INA-CBGs reimbursement scheme is necessary to ensure hospital to achieve ideal cost recovery when patients are treated.

Keywords: *BPJS, INA-CBG's, Defisit, Osteoarthritis, Total Knee Replacement*

INTRODUCTION

Health is one of the basic human needs and is a right for every citizen that is protected by law[1]. The form of the State's efforts in providing health services is by launching the National Health Insurance Program (JKN). Payment for National Health Insurance through the Social Security Administrative Body (BPJS) is regulated based on Minister of Health Regulation No. 3 of 2023 concerning Standard Health Service Tariffs in the Implementation of Health Insurance Programs in Facilities First Level and Advanced Level Health. At Advanced Level Health Facilities based on INA-CBG's where payment for service packages is based on disease diagnosis and procedure groupings, covering all hospital resources used in both medical and non-medical services.

Several studies have been conducted regarding hospital rates and INA-CBG's rates. Research on INA-CBG;s

rates and treatment costs for Percutaneus Coronary Intervention (PCI) services at Bandung Hospital in 2020 found that 29 out of 30 patients whose treatment costs exceeded INA-CBG's rates[3]. Another study in 2020 found a significant difference in orthopedic surgery services at RSU Saiful Anwar Malang[4]. According to Yoghi, et al, in 2020 there are hospitals that experience higher INA-CBG's rates than hospital rates, although in some cases diseases also suffer losses due to the difference between hospital expenditure rates and INA-CBG's rates [5].

Previous studies found that the average hospitals experienced losses in BPJS payments. At Siti Fatimah Hospital, it is also known that total knee replacement cases always experienced losses. This study aims to measure difference between between hospital rates and INA-CBG's rates for Orthopedic services, in particular for total knee replacements at Siti Fatimah Hospital, South Sumatra.

METHOD

This research is quantitative, descriptive research in hospital. We compiled all 19 cases of total knee replacement surgeries between 2020-2023 in Siti Fatimah Hospital, South Sumatra. The difference between total cost for treatment was averaged, and then compared with reimbursements made by national healthcare system. This study is exempt from ethical approval through ND/001/11.10/RSUD-SF/IV/2023

RESULTS AND DISCUSSION

Total Knee Replacement surgery was conducted to 19 patients between 2020-2023. Table 1 showed demographic characteristics of patients.

Table 1. Demographics of Patient (n=19)

Patient demographics	Frequency	Percentage (%)
Gender		
Male	3	15,8
Female	16	84,2
Age		
≤60	10	52,6
>60	9	47,4
Education		
No School	10	52,6
Elementary School	2	10,5
Senior High School	6	31,6
College graduate	1	5,3
Knee side		
Right	10	52,6
Left	9	47,4

Majority of total knee replacements involved females with no formal education. More patients required total knee replacements at less than 60 years old, with right-side knee became the most affected knee.

Table 2. Cost of Treatment (n=19)

Patient demographics	N	Average cost (in thousand rupiahs)	Average reimbursements (in thousand rupiahs)	Average difference (in thousand rupiahs)
Gender				
Male	3	83,125	29,834	-53,291
Female	16	68,340	33,513	-34,827
Age				
≤60	10	79,238	32,136	-47,103
>60	19	61,160	33,817	-27,343
Severity				
Mild	7	69,389	29,942	-39,447
Moderate	12	71,425	34,676	-36,749
Class				
1	7	57,190	36,081	-21,109
2	5	73,864	33,686	-40,178
3	7	81,881	29,245	-52,636
Average		**70,675**	**32,932**	**-37,743**

Our data showed highest deficit on third class patients (-52.636 million rupiahs), followed by second class patients (-40.178 million rupiahs) and first class (-21.109 million rupiahs). In our hospital, prostheses were procured through national government catalog and averaged at 11.329 million rupiahs. Reimbursement for medical service fee was conducted in accordance to provincial and national regulations. In accordance to [6], our data showed higher deficit in third class patient than in second class patient. Interestingly, milder conditions resulted in higher average deficit, suggesting much lower reimbursement rate for milder case than severe case. Although unusual, our result is not without precedent, as another studies found similar result [7,8]. Meanwhile, hospitals are financially-benefitted from national healthcare system, with significant positive impact was seen on at least one study [9], due to majority of hospital income coming through national healthcare system [9,10].

In other study [11], higher coverage of first- and second-class patients were able to cover third-class patient cost through activity-driven cost control. Factors affecting high treatment cost including length of treatment[12], severity and accompanying diagnoses[13], medical services reimbursement[14], patient treatment class [15], inappropriate insurance coding [16],

completeness of patient medical record [13]. In light of these factors, cost control could be applied through reduction of treatment length [15,17], optimization of staff to patient ratio [16], privately-funded VIP healthcare services [18], and conducting medical treatments in accordance to clinical pathway [19] may allow hospitals to recover deficits caused by national healthcare system. Further cost control is achievable through stockpiling and cost renegotiation of certain medications, usage of national formulary [20], proper insurance coding, ensuring clinical pathway is up-to-date and followed by medical staffs [21], cost sharing with other departments with positive cost recovery rate [22], and further adjustment of reimbursement by national healthcare system [16].

CONCLUSIONS

In conclusion, our study showed that in average national healthcare system only reimbursed half of our cost. Further evaluation of INA-CBGs reimbursement scheme is necessary to ensure hospital to achieve ideal cost recovery when patients are treated. We believe that hospitals should be able to conduct more thorough cost-management through without sacrificing services to patients.

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