

Analysis of the Difference Between Hospital Actual Tariffs and INA-CBG Tariffs in Mild-Severity Cesarean Section Cases

Sitti Rahma ^{1*}, Mega Ermasari Muzuh ², Ahmad Amiruddin J

^{1,2,3} Politeknik Baubau, Baubau, Indonesia

ARTICLE INFORMATION

Received: 5 December 2025

Revised : 7 January 2026

Accepted: 2 February 2026

DOI

KEYWORDS

Keywords: Actual Tariff, INA-CBG Tariff, Sectio Caesarea, BPJS Kesehatan

CORRESPONDING AUTHOR

Nama : Sitti Rahma

Address: Baubau, Sulawesi Tenggara

E-mail : sittirahma071204@gmail.com

A B S T R A C T

The INA-CBG payment system sets package tariffs based on diagnosis groups without accounting for the actual cost variations incurred by hospitals, potentially creating discrepancies with hospitals' actual tariffs, including in Sectio Caesarea (SC) delivery cases. This study aimed to analyze the difference between hospital actual tariffs and INA-CBG tariffs and to identify factors presumably contributing to this difference based on detailed service costs in mild severity level SC cases at RSUD Faga Husada in 2025. The sample consisted of all BPJS inpatients undergoing mild severity level SC delivery without complications at RSUD Faga Husada in 2025, totaling 72 cases, selected using a census technique. This quantitative study employed a cross-sectional design with retrospective data collection. Data were gathered through documentation studies of claims and patient billing records, then analyzed descriptively and tested using the Wilcoxon Signed Rank Test after the Kolmogorov-Smirnov normality test indicated non-normal data distribution. Based on the research results it was found that the total hospital actual tariff was Rp1,063,857,390.00, while the total INA-CBG tariff was Rp367,177,000.00, resulting in a difference of Rp696,680,390.00 ($p=0.000$). The surgical procedure component was the largest cost contributor, accounting for 80.26% of the total actual tariff.

INTRODUCTION

Hospitals are healthcare facilities that provide medical services through outpatient, inpatient, and emergency care, and are responsible for ensuring the quality and safety of patients through the implementation of well-organized governance (UU RI, 2023). Healthcare financing in Indonesia is implemented through the Jaminan Kesehatan Nasional (JKN) Program, which is administered by BPJS Kesehatan to ensure the fulfillment of participants' basic healthcare needs (UU RI, 2004). Healthcare services under the JKN program are reimbursed using a prospective case-based payment system known as the Indonesian Case-Based Groups (INA-CBGs). This system establishes bundled tariffs based on similarities in clinical conditions and resource utilization (Kemenkes RI, 2021). The calculation of these tariffs differs from the calculation of the hospital's actual tariffs. Hospital actual tariffs represent the actual costs incurred during the provision of patient care, including surgical procedures, healthcare professional fees, supporting services, medications, medical consumables (BMHP), and accommodation (Kemenkes RI, 2015).

The difference in tariff-setting methods between INA-CBG bundled tariffs and hospital actual tariffs may result in either positive or negative tariff differences, depending on whether the INA-CBG tariff is higher or lower than the actual costs incurred (Zahara & Fitriani, 2025). Numerous discrepancies have been identified between hospital actual tariffs and INA-CBG tariffs (Mubshiroh et.al., 2024). Cesarean section (CS) delivery is one of the case groups that frequently experiences such discrepancies. When these differences occur repeatedly, they may negatively affect the hospital's financial condition (Utami & Fanny, 2021).

Cesarean section (CS) delivery is a healthcare service with greater complexity than normal vaginal delivery because it involves an operating room, specialist medical personnel, anesthesia, medications, and postoperative care, resulting in higher costs than those associated with normal delivery. Based on a preliminary analysis of BPJS claim data at RSUD Faga Husada General Hospital in 2025, the CS case group had the largest total negative difference between hospital actual tariffs and INA-CBG tariffs, amounting to IDR 2,877,133,709.00. This figure was substantially higher than that for vaginal delivery (IDR 884,317,927.00) and abdominal pain (IDR 535,129,775.00), despite CS not being the case group with the highest number of services. This finding indicates that CS has a considerable negative impact on the hospital's financial condition compared with other case groups.

Therefore, it is relevant for further investigation, particularly among cases with a mild severity level, which constitute the largest proportion of CS cases.

A previous study by Prandyantara et al. (2023) found that hospital actual tariffs frequently exceeded the INA-CBG tariffs reimbursed by BPJS. If this condition persists over the long term, it may encourage hospitals to implement excessive cost-control measures, which could potentially reduce the quality of healthcare services.

Most previous studies have not specifically identified which components of healthcare service costs predominantly contribute to the actual tariffs for CS cases with a mild severity level in a type D hospital such as Faga Husada General Hospital. Consequently, the factors contributing to tariff differences at this severity level remain insufficiently explored. This research gap underlies the need for further investigation into the differences between hospital actual tariffs and INA-CBG tariffs, as well as the cost components that contribute to these differences.

Based on the above description, this study aims to analyze the differences between hospital actual tariffs and INA-CBG tariffs for cesarean section delivery cases with a mild severity level, while also identifying the factors contributing to these differences based on the detailed components of healthcare service costs at Faga Husada General Hospital in 2025.

METHODS

This study employed a quantitative research approach with a cross-sectional design and retrospective data collection. The study was conducted to analyze the differences between hospital actual tariffs and INA-CBG tariffs and to identify factors suspected to contribute to the tariff differences. The population and sample consisted of all BPJS inpatients who underwent cesarean section delivery with a mild severity level and without complications at Faga Husada General Hospital in 2025 ($n = 72$). Total sampling was used because the population consisted of fewer than 100 patients (Sugiyono, 2023). The study was conducted at Faga Husada General Hospital, Baubau City, Southeast Sulawesi, in April–May 2026. The study variables included hospital actual tariffs (ICD-10 codes O82.9 and Z37.0), INA-CBG tariffs (INA-CBG code O-6-10-I), tariff differences (INA-CBG tariff minus hospital actual tariff), and nine cost components contributing to the actual tariff, namely surgical procedures, consultations, specialist services, nursing care, radiology, laboratory services, accommodation, medications, and medical consumables (BMHP). All variables were measured on a ratio scale.

Data were collected through a documentation study of secondary data obtained from the casemix unit, including medical record numbers, hospital actual tariffs, INA-CBG tariffs, and detailed cost components. The data were recorded in an Excel spreadsheet without patient-identifying information. The instruments used in the study were SPSS version 25.0.0.0, Microsoft Excel LTSC 2021, and a data collection table. Data analysis included descriptive analysis, consisting of the distribution, total, mean, and percentage of each cost component, as well as bivariate analysis using a paired-sample difference test to examine the difference between hospital actual tariffs and INA-CBG tariffs. The Kolmogorov–Smirnov normality test was performed first. If the data were normally distributed ($p > 0.05$), a Paired Samples t-Test was conducted. If the data were not normally distributed ($p < 0.05$), the Wilcoxon Signed-Rank Test was used, with a significance level of 0.05. The data were processed through the stages of editing, coding, data entry, and cleaning before being presented in tables and narrative form.

RESULTS & DISCUSSION

Analysis of the Difference Between Hospital Actual Tariffs and INA-CBG Tariffs in Mild-Severity Cesarean Section Cases at Faga Husada General Hospital in 2025

Class	Number of Cases	Mean Hospital Actual Tariff	Total Hospital Actual Tariff	INA-CBG Tariff/Case	Total INA-CBG Tariff
I	5	IDR 18,677,923.20	IDR 93,389,616.00	IDR 6,279,000.00	IDR 31,395,000.00
II	25	IDR 16,378,147.52	IDR 409,453,688.00	IDR 5,500,000.00	IDR 137,500,000.00
III	42	IDR 13,357,478.24	IDR 561,014,086.00	IDR 4,721,000.00	IDR 198,282,000.00

Source: Processed data, 2025

Healthcare financing in Indonesia uses the INA-CBG system, a prospective payment method based on case groups as regulated by Minister of Health Regulation No. 26 of 2021 concerning the

INA-CBG Guidelines for the Implementation of the National Health Insurance Program. These tariffs are fixed for each inpatient class per episode of care and do not account for variations in hospital service costs. In contrast, hospital actual tariffs represent the actual costs incurred during the provision of healthcare services, in accordance with Minister of Health Regulation No. 85 of 2015 concerning the National Tariff Structure for Hospitals.

Based on Table 1, the hospital actual tariff for mild-severity Cesarean section (CS) cases was higher than the INA-CBG tariff across all inpatient classes. The total hospital actual tariff for 72 cases was IDR 1,063,857,390.00, whereas the total INA-CBG tariff was IDR 367,177,000.00, resulting in a tariff difference of IDR 696,680,390.00. The largest difference occurred in Class III (IDR 362,732,086.00), followed by Class II (IDR 271,953,688.00) and Class I (IDR 61,994,616.00). These findings indicate that the INA-CBG bundled tariff was insufficient to cover the actual costs of CS services incurred by the hospital because the tariff is predetermined as a bundled payment and does not reflect variations in actual hospital costs.

The Kolmogorov–Smirnov normality test of the 72 samples showed significance values of 0.000 for the INA-CBG tariffs and 0.001 for the hospital actual tariffs ($p < 0.05$), indicating that the data were not normally distributed. Therefore, the analysis was continued using the Wilcoxon Signed-Rank Test. The results showed 72 negative ranks and 0 positive ranks, with a p-value of 0.000 ($p < 0.05$), indicating that H_0 was rejected and H_1 was accepted. This means that there was a statistically significant difference between the hospital actual tariffs and INA-CBG tariffs for mild-severity CS cases at Faga Husada General Hospital in 2025.

These findings are consistent with a study by Putri et al. (2023) involving CS patients at Kalideres Regional General Hospital, which found that the mean hospital actual tariff was higher than the INA-CBG tariff. Studies by Mubshiroh et al. (2024) at South Tangerang City Regional General Hospital and Prandyantara et al. (2023) also reported similar findings, with the difference between hospital actual tariffs and INA-CBG tariffs consistently showing a negative balance for CS cases. The statistical analysis conducted by Hayati et al. (2024) also demonstrated a significant difference between the two tariffs ($p < 0.05$). The consistency of findings across various hospitals confirms that discrepancies between hospital actual tariffs and INA-CBG tariffs for CS services are relatively common in Indonesia. In the case of Faga Husada General Hospital, this condition indicates that the hospital incurs an underfunding for each mild-severity CS case treated.

Factors Suspected to Contribute to the Difference Between Hospital Actual Tariffs and INA-CBG Tariffs Based on Healthcare Service Cost Components

Table 2 Factors Suspected to Contribute to the Difference Between Hospital Actual Tariffs and INA-CBG Tariffs Based on Healthcare Service Cost Components at Faga Husada General Hospital in 2025

CS Service Cost Component	Total (IDR)	Mean/Patient (IDR)	Percentage (%)
Surgical procedures	853,816,000.00	11,858,555.56	80.26
Accommodation	53,528,000.00	743,444.44	5.03
Medications	49,718,676.00	690,537.17	4.67
Specialist services	34,070,000.00	473,194.44	3.20
Medical consumables (BMHP)	31,044,714.00	431,176.58	2.92
Nursing care	21,935,000.00	304,652.78	2.06
Laboratory services	17,045,000.00	236,736.11	1.60
Consultation	1,700,000.00	23,611.11	0.16
Radiology	1,000,000.00	13,888.89	0.09
Total	1,063,857,390.00	14,775,797.08	100

Source: Processed data, 2025

The INA-CBG tariff is determined as a bundled payment based on the inpatient class (Kemenkes RI, 2021). The hospital's actual tariff is composed of the costs actually incurred during patient care (Kemenkes RI, 2023). Identifying the cost components is necessary to determine the factors suspected of underlying the tariff difference. Based on Table 2, surgical procedures made the largest contribution to the hospital actual tariff, amounting to IDR 853,816,000.00 or 80.26% of the total service costs. This was substantially higher than other components, including accommodation

(5.03%), medications (4.67%), specialist services (3.20%), medical consumables (BMHP) (2.92%), nursing care (2.06%), laboratory services (1.60%), consultation (0.16%), and radiology (0.09%).

The dominance of surgical procedure costs is consistent with the characteristics of CS as a surgical procedure requiring specialist medical personnel and operating room facilities. With surgical procedures accounting for 80.26% of the total hospital actual tariff, this component may be considered the factor that contributes most substantially to the tariff difference, given that INA-CBG tariffs do not account for variations in the actual costs of operative procedures incurred by the hospital.

This finding is also consistent with a study by Surya et al. (2023), which showed that surgical procedures were the largest contributor to hospital actual tariffs, accounting for approximately 26–59%, while medical consumables and supporting components contributed only around 1–3%. Sutrisno (2023) also supported this finding, explaining that the high cost of surgical procedures was attributable to operations performed by specialists in obstetrics and gynecology, as well as the use of various hospital facilities and resources. Meanwhile, variations in other service components, such as nursing care, consultations, and medication use, contributed to the hospital actual tariff to a lesser extent. Mubshiroh et al. (2024) also reported similar findings, with medical services accounting for approximately 71.5% of the total cost of CS services.

Based on these findings, surgical procedures can be concluded to be the most dominant cost component and the factor most strongly suspected of contributing to the difference between hospital actual tariffs and INA-CBG tariffs for mild-severity CS cases at Faga Husada General Hospital. This finding may serve as a consideration for the hospital in managing the financing of CS services. However, because the analysis in this study was descriptive, the statistical relationship between each cost component and the magnitude of the tariff difference could not be established. Therefore, further research using an analytical approach is needed to determine which cost components significantly influence the tariff difference.

CONCLUSION

Based on the findings, there was a statistically significant difference between the hospital actual tariffs and INA-CBG tariffs for mild-severity Cesarean section cases at Faga Husada General Hospital in 2025. The hospital actual tariff was higher than the INA-CBG tariff across all inpatient classes, with a total hospital actual tariff of IDR 1,063,857,390.00 and a total INA-CBG tariff of IDR 367,177,000.00, resulting in a tariff difference of IDR 696,680,390.00. The Wilcoxon Signed-Rank Test showed a p-value of 0.000 ($p < 0.05$), confirming that the difference was statistically significant. Based on the breakdown of healthcare service cost components, the factor most strongly suspected of contributing to the tariff difference was surgical procedures, with a total cost of IDR 853,816,000.00 or 80.26% of the total hospital actual tariff. This was substantially higher than other components, including accommodation (5.03%), medications (4.67%), specialist services (3.20%), medical consumables (BMHP) (2.92%), nursing care (2.06%), laboratory services (1.60%), consultation (0.16%), and radiology (0.09%). The dominance of surgical procedure costs indicates that this component is the primary factor suspected of underlying the substantial difference between hospital actual tariffs and INA-CBG tariffs in the cases studied.

This study has several limitations. First, the study only included mild-severity Cesarean section cases and therefore cannot describe tariff differences across all severity levels. Studies involving all severity levels are needed to provide a more comprehensive picture of the gap between hospital actual tariffs and INA-CBG tariffs. Second, the identification of healthcare service cost components in this study was descriptive and did not statistically analyze the relationship or effect of each cost component on the magnitude of the tariff difference. Therefore, further research using an analytical approach is needed to determine which cost components have the most significant contribution to the occurrence of tariff differences.

ACKNOWLEDGMENTS

The authors would like to express their sincere gratitude to the First and Second Supervisors for their guidance, direction, and valuable suggestions throughout the preparation of this journal article. The authors also extend their gratitude to Politeknik Baubau for providing the facilities and data required for this research. Finally, the authors would like to thank their family and friends for their support and assistance throughout the research process and the preparation of this journal article.

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