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A Comparative Analysis of INA-CBG and Hospital Tariff for Spontaneous Vaginal Delivery and Lower Segment Caesarean Section Cases in Three Different Types of Hospital in Surabaya, Indonesia

Presenter:
Maznah Dahlui
Co-authors: Mohd Hafiz Jaafar, Amirah Azzeri, Thinni Nurul Rochmah, Mohamad Helmi bin Mohamad Yasim

Introduction

- A part of the findings of a multicountry grant study ''Assessing Hospital Efficiency with the Implementation of Case-mix for Hospital tariff at Various types of Hospitals in Malaysia, Indonesia and South Korea''.
- This presentation is on the findings from the hospitals in Indonesia.

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Introduction

- Case-mix system was introduced when Indonesia implemented national health insurance (JKN) in 2014.
- The grouper used in Indonesia hospitals is Indonesian Case Base Groups (INA-CBG).
- The tariff for reimbursement was set by the National Health Insurance Services or BPJS depended on the type of hospital but did not consider the previous hospital charges.
- Inaccurate estimation through a case-mix system results in a loss of revenue or over surplus of the hospital budget. Both circumstances are financially unhealthy for hospitals[1].

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Introduction

- Therefore, it is crucial to re-visit and evaluate the effectiveness of case-mix implementation to ensure that the healthcare budget is utilized efficiently, and resources are allocated optimally[2]
- This study aimed to determine the discrepancies between the INA-CBG and hospital tariff for spontaneous vaginal delivery (SVD) and lower segment caesarean section (LSCS) cases

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Methodology

- ✓ A cross-sectional study was conducted using the secondary data from three different hospitals in Surabaya, Indonesia
- ✓ The healthcare centres that were included in this study consist of public (general and university hospital) and private hospital.

PHC Hospital

Universitas Airlangga Hospital

Dr Soetomo Hospital

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Methodology

- Data on the INA-CBG tariff for each DRG and the limited cost of each activity for all case-mix severity level for SVD and LSCS cases in year 2022 were collected.
- Patient-level data on clinical characteristics and resource utilization were also collected for all the codes.
- The hospital tariffs for each case-mix were different at each hospital which determined via different approaches – based on charges of other hospital with similar setting, historical tariff and actual costing performed.

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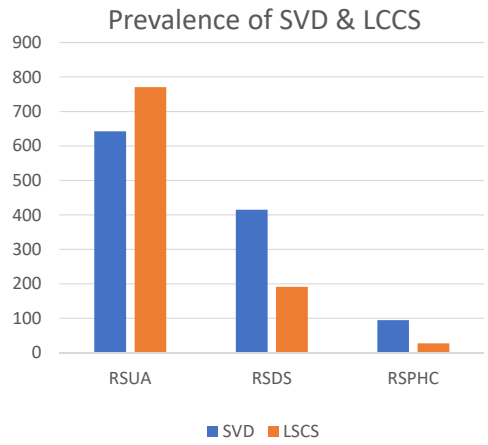
Results – Prevalence of SVD & LSCS



- ✓ University hospital (RSUA):
  - •SVD 643 cases (severity level I=473, II=162, III-=)
  - •LSCS 771 (severity level I=358, II=411, III-2) cases
- ✓ General hospital (RSDS):
  - •SVD 415 cases (severity level I=110, II=278, III=27)
  - •LSCS 192 cases (severity level I=26, II=163, III=3)
- ✓ Private hospital (RSPHC):
  - •SVD 95 cases (severity level I=88, II=6, III-1)
  - •LSCS cases 28 (severity level I=24, II=4, III=0)

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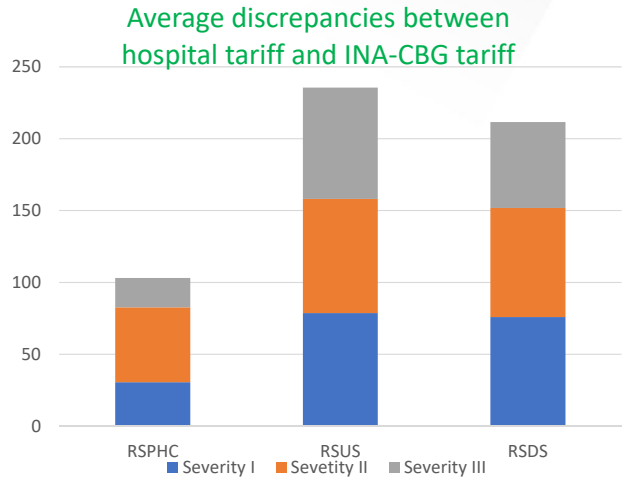
Results – Discrepancies

- ➢ For SVD cases, the average discrepancies between hospital tariff and INA-CBG tariff recorded:
  - Uni. Hospital had 76.67% (severity level I=78.76%, II=79.36%, III-77.51%)
  - General hospital had 70.57% (severity level I=76.02%, II=75.88%, III-59.81%)
  - Private hospital had 32.55 % (severity level I=30.06%, II=52.08%, III-20.47%)



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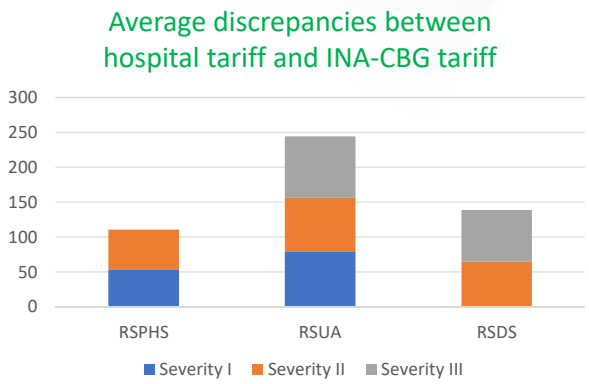
Results – Discrepancies

- For LSCS cases, the average discrepancies between hospital tariff and INA-CBG tariff recorded:
  - ✓ Uni. Hospital had 79.61% (severity level I=79.00%, II=77.46%, III-87.88%)
  - ✓ General hospital had 66.36% (severity level I=62.76%, II=64.96%, III-73.95%)
  - ✓ Private hospital had 52% (severity level I=53.68%, II=57.02%)



Hospital	Mode	Severity	Class	INA CBG Tariff	Hospital Tariff	Differences	%
RSPHC	SVD	1	1	6,981,500.00	16,209,326.74	- 9,227,826.74	-57%
		1	3	4,986,800.00	5,295,566.60	-308,766.60	-6%
RSUA	SVD	1	1	6,778,100.00	27,893,376.45	-21,115,276.45	-76%
		2	3	5,247,800.00	30,589,441.85	-25,341,641.85	-83%
		3	3	8,789,300.00	44,922,118.40	-36,132,818.40	-80%
RSDS	SVD	1	1	5,995,641.18	25,230,955.32	-19,235,314.15	-76%
		2	3	7,776,975.00	30,974,378.96	-23,197,403.96	-75%
		3	2	12,792,100.00	24,181,217.00	-11,389,117.00	-47%

- ❖ Private hospital had mostly case-mix level 1
- ❖ the INA CBG tariff is between 6% to 57% less than hospital tariff, depending on the ward class
- ❖ For the public and general hospitals, the procedure was under tariffed by BPJN

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Discussion

- In this study, huge discrepancies between hospital tariff and INA-CBG tariff were recorded for both SVD and LSCS cases for all severity levels in all three hospitals.
- Compared to the public hospitals (RSUA and RSDS), the discrepancies recorded by the private hospital (RSPHC) were the lowest. This could be contributed by the costing calculations exercise conducted by RSPHC to determine their hospital tariff for both case-mix.
- In addition, different cost drivers were also recorded for LSCS cases for all three hospitals possibly due to different terms and definitions used to define cost components recorded for each hospital.

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Discussion

❖The research underscores several policy implications;

- Resource allocation - shed light on how case-mix implementation influences resource allocation within hospitals, providing policymakers with insights into optimizing resource utilization for enhanced healthcare delivery[3-6].
- On the tariff structure reform – this exercise addresses the need for potential reforms in hospital tariff structures, advocating for adjustments that align with the diverse case-mix scenarios observed across the studied hospitals.
- On quality Improvement - policymakers can leverage the study's insights to formulate strategies for improving healthcare quality by tailoring policies that consider case-mix variations in different hospital types[7-10].

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Conclusion

- Discrepancies between the hospital tariff and BPJS set tariff for the same case-mix for SVD and LSCS were observed for the different types of hospital.
- It is important for the hospital to accurately estimate the cost of treatment so that appropriate hospital tariff could be determined.
- BPJS tariff should continue to be customised to the resources, healthcare services and additional functions of the hospital.
- Appropriate tariff for the case-mix system is important to ensure the success of national health insurance implementation and sustainable healthcare services delivery in the country.

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Terima Kasih

Thank you

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