



**A COMPARATIVE RETROSPECTIVE STUDY TO EVALUATE THE IMPACT OF COVID-19 ON  
AYUSHMAN BHARAT SCHEME (DKBSSY) REGISTRATION IN ANESTHESIA DEPARTMENT AT  
CHHATTISGARH INSTITUTE OF MEDICAL SCIENCES, BILASPUR, CHHATTISGARH**

**Miltan Debbarma<sup>1</sup>, Surbhi Banjare<sup>2</sup>, Chandrahas Dhruw<sup>3</sup>, Rakesh Nigam<sup>4</sup>,  
Ajay Kumar Nirmalkar<sup>5</sup> and Divya Bharat<sup>6</sup>**

<sup>1,2,3,4</sup>Dept. Of Anesthesiology, CIMS Bilaspur

<sup>5,6</sup>Coordinator Ayushman Bharat Scheme, CIMS Bilaspur

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**ABSTRACT**

**Background:** Ayushman Bharat PM-JAY is the largest health assurance scheme in the world which aims at providing health cover of Rs 5 lakhs per family / year for secondary and tertiary care hospitalization to cover 10.74 crores poor and vulnerable families (approximately 50 crore beneficiaries) that form the bottom 40% of the Indian population. Ayushman Bharat Scheme or Pradhan Mantri Jan Arogya Yojna or PM-JAY was launched on 23<sup>rd</sup> September, 2018. In our state Chhattisgarh it is run as Dr. Khoobchand Baghel Swasthya Sahayata Yojna (DKBSSY). It provides cashless access to health care services for the beneficial at the point of all necessary services.

**Objective:** To evaluate the impact of covid-19 on Ayushman Bharat Scheme (DKBSSY) registration in Anesthesia department at chhattisgarh institute of medical sciences, bilaspur, chhattisgarh.

**Methods:** This retrospective comparative clinical study is conducted in the department of Anesthesiology, Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh. The one year Ayushman Bharat scheme (DKBSSY) registration data from 20 March 2019 to 20 March 2020 is compared with the data from Covid-19 year from 20 March 2020 to 20 March 2021. Frequency tables, comparative charts are used to evaluate and measure the data from the study to describe the impact of Covid-19 on Ayushman Bharat scheme (DKBSSY) registration in Anesthesiology department. **Results:** 193 out of 266 ICU patients (72.5%) belonged to 18-45 years age group followed by 21.4% in >45 year group and only 6% of IPD were below 18 yrs of age. This data shows that during covid-19 pandemic the patients of 18-45 year age group were increased by 2.5%. Female IPD population was high in both years because of predominance of gynaecological cases. Data showed that during the pandemic year the patients of lower and upper socioeconomic strata were increased. In Covid-19 yr the total Ayushman beneficiary registered in Anesthesiology department, CIMS was 226 out of 252 (90%) IPD, the cases of LSCS with Eclampsia, LSCS with fetal distress, LSCS with APH did >90% Ayushman registration, patients of gravid uterus with hysterectomy had 100% conversion rate. **Conclusion:** We observed in our study that in both years majority of the IPD patients registered were middle aged females and belonged to lower SES as the gynecological cases were predominant, with compare to pre Covid-19 year the conversion rate of ayushman registration was increased from 66% to 90% despite the nation wise lockdown and restricted transport services.

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**INTRODUCTION**

Ayushman Bharat is the Pradhan Mantri Jan Arogya Yojna or PM-JAY as it is popularly known. This scheme was launched on 23<sup>rd</sup> September, 2018 in Ranchi, Jharkhand by the Hon'ble Prime Minister of India. [1] Ayushman Bharat PM-JAY is the largest health assurance scheme in the world which aims at providing health cover of Rs 5 lakhs per family per year for secondary and tertiary care hospitalization to cover 10.74 crores poor and vulnerable families (approximately 50 crore beneficiaries) that form the bottom 40% of the Indian population. [2] In our state Chhattisgarh it is run as Dr.

Khoobchand Baghel Swasthya Sahayata Yojna (DKBSSY). With a view to provide the health assurance coverage to 100% of population of Chhattisgarh & to make the process of availing services simple to the general public, under Dr. Khoobchand Baghel Swasthya Sahayata Yojana (DKBSSY) treatment benefits are being provided to all the resident families of State on the basis of Ration cards issued by the State Food, Civil Supplies & Consumer Protection department. The households included are based on the deprivation and occupational criteria of Socio-Economic Caste Census 2011 (SECC 2011) for rural and urban areas respectively. [3][4] PM-JAY is fully funded by the Government and cost of

implementation is shared between the Central and the State Governments. It provides cashless access to health care services for the beneficial at the point of service, that is, the hospital. Benefits of the scheme are portable across the country i.e. a beneficiary can visit any empanelled public or private hospital in India to avail cashless treatment. [5] Services include approximately 1393 procedures covering all the costs related to treatment, including but not limited to drugs, diagnostic services, physician's fees, room charges, surgeon charges, OT and ICU charges etc. [6] The RSBY had a family cap of five members. However, based on learning from those schemes, PM-JAY has been designed in such a way that there is no cap on family size or age of members. It helps India progressively achieve Universal Health coverage [UHC] and Sustainable Development Goals (SDG) amidst Covid-19 pandemic. The first case of Covid-19 in Chhattisgarh state was found in capital Raipur on 19<sup>th</sup> March 2020. [7] In the absence of pharmaceutical interventions, many countries have resorted to population-wide lockdowns to slow the spread of the virus and to allow their health systems to cope. [8] The main concern is that health services have been partially or completely disrupted in many countries and states. Overall 42% of critical care management is disrupted by Covid-19 the key reasons behind it are the Reassignment of health staff from their primary service to support COVID-19. [9] But the most common reasons for discontinuing or reducing services were cancellations of planned treatments, a decrease in public transport available and a lack of staff because health workers had been reassigned to support COVID-19 services.

### Objective

To evaluate the impact of covid-19 on Ayushman Bharat Scheme (DKBSSY) registration in Anesthesia department at chhattisgarh institute of medical sciences, bilaspur, chhattisgarh.

### METHODOLOGY

**Method:** This retrospective comparative clinical study is conducted in the department of Anesthesiology, Chhattisgarh Institute of Medical Sciences, Bilaspur, Chhattisgarh. The one year Ayushman Bharat scheme (DKBSSY) registration data from 20 March 2019 to 20 March 2020 is compared with the data from Covid-19 year from 20 March 2020 to 20 March 2021. Frequency tables, comparative charts are used to evaluate and measure the data from the study to describe the impact of Covid-19 on Ayushman Bharat scheme (DKBSSY) registration in Anesthesiology department

#### Patient Inclusion Criteria

1. All cases registered under Anesthesiology department.
2. All Patients who are eligible for registration under Ayushman Bharat scheme in Anesthesiology department.

#### Patient Exclusion Criteria

1. Patients who were not having Ayushman Bharat card.
2. Patient who took treatment on OPD basis only.

#### Major Variables

1. Age
2. Gender
3. Socioeconomic status
4. Ayushman Bharat registration data pre Covid-19 year
5. Ayushman Bharat registration data Covid-19 year

## RESULTS

The results are as follows:

### Age

In Pre Covid-19 yr i.e. from 20 March 2019 to 20 March 2020, 193 out of 266 ICU patients (72.5%) belonged to 18-45 years age group followed by 21.4% in >45 year group and only 6% of IPD were below 18 yrs of age. Whereas in Covid-19 yr i.e. from 20 March 2020 to 20 March 2021, 75% patients were in 18-45 year age group followed by 20.2% in >45 years age group and only 4.7% patients were below 18 yrs. This data shows that during covid-19 pandemic the patients of 18-45 year age group were increased by 2.5%.

**Table 1** Age wise distribution of IPD patients

Age Range(yr)	<18	18-45	>45	Total
Pre Covid-19 yr	16(6%)	193(72.5%)	57(21.4%)	266
Covid-19 yr	12(4.7%)	189(75%)	51(20.23%)	252

### Gender

198 out of 266 (74.4%) IPD patients were female in Pre Covid-19 yr whereas male IPD patients were 25.5%, no patients of transgender community was reported. During Covid-19 pandemic year females were predominant in IPD i.e. 76.4% whereas male IPD population was 24.6%, no patients of transgender community was reported. Female IPD population was high in both years because of predominance of gynaecological cases.

**Table 2** Gender wise Distribution of IPD patients

Gender	Male	Female	Total
Pre Covid-19 yr	68(25.5%)	198(74.4%)	266
Covid-19 yr	62(24.6%)	190(76.4%)	252

### Socio-economic status

In Pre Covid-19 yr, 164 out of 266 (61.6%) patients of lower socioeconomic strata were admitted in ICU, on the other hand 36.8% patients were of middle class economy status and only 1.5% belonged to upper class. Whereas in Covid-19 pandemic year lower class patients reported was 68.2% and middle class were 26.9%. Data clearly showed that during the pandemic year the patients of lower and upper socioeconomic strata were increased.

**Table 3** Socio-economic status wise distribution of patients

SES	Lower Class	Middle Class	Upper Class	Total
Pre Covid-19 yr	164(61.6%)	98(36.8%)	4(1.5%)	266
Covid-19 yr	172(68.2%)	68(26.9%)	12(4.7%)	252

### Total Ayushman Bharat scheme (DKBSSY) registration data from 20 march 2019 to 20 march 2020

In Pre Covid-19 yr i.e. from 20 March 2019 to 20 March 2020 the total Ayushman beneficiary registered in Anesthesiology department, CIMS was 175 out of 266 IPD, these patients received treatment for various diseases like LSCS with Eclampsia (71.1%), LSCS with fetal distress (48.8%), LSCS with APH (100%), Laparotomy with Ectopic Pregnancy, Gravid Uterus with Hysterectomy.

**Table 4** Total Ayushman registration and IPD data from 20 March 2019 to 20 March 2020

Type of Diseases	LSCS with Eclampsia	LSCS with fetal distress	LSCS with APH	Laparotomy with Ectopic Pregnancy	Gravid Uterus with Hysterectomy	Perforation	others	Total
IPD	107	49	15	10	20	11	54	266
Ayushman	76	23	15	7	14	6	34	175
Conversion	71.1%	48.8%	100%	75.6%	71.4%	63.6%	63.6%	66%

**Table 5** Total Ayushman registration and IPD data from 20 March 2020 to 20 March 2021

Type of Diseases	LSCS with Eclampsia	LSCS with fetal distress	LSCS with APH	Laparotomy with Ectopic Pregnancy	Gravid Uterus with Hysterectomy	Perforation	others	Total
<b>IPD</b>	107	49	15	10	20	11	54	252
<b>Ayushman</b>	98	44	13	10	18	6	50	226
<b>Conversion</b>	91.8%	91.8%	86.6%	100%	90%	54.5%	92.5%	90%

**Table 6** Total Ayushman Bharat scheme (DKBSSY) registration data comparison

	Pre Covid-19yr	Covid-19yr
Total IPD	266	252
Total Registration	175	226
Conversion rate	66%	90%

### Total Ayushman Bharat scheme (DKBSSY) registration data 20 march 2020 to 20 march 2021

In Covid-19 yr i.e. from 20 March 2020 to 20 March 2021 the total Ayushman beneficiary registered in Anesthesiology department, CIMS was 226 out of 252 (90%) IPD, the cases of LSCS with Eclampsia, LSCS with fetal distress, LSCS with APH did >90% Ayushman registration, patients of gravid uterus with hysterectomy had 100% conversion rate.

## DISCUSSION

Covid19 pandemic, AB PM-JAY service utilization across most of the implementing states has reduced significantly. This change can be attributed to deeper underlying factors relating to supply, demand, and infrastructural set-up. Surveys and discussions conducted across the country have indicated that providers are facing financial and service delivery challenges from factors such as low utilization, delayed payments, inadequate and expensive supply of PPE along with disruptions to the commodity supply chain while, beneficiaries continue to face physical barriers to access facilities even post-lockdown, information asymmetry and fear of contracting the virus at hospitals. [10] The lockdown continued in different phases till 31 May 2020. During this time the movement of entire population was limited which resulted in postponement and delaying of many health care services including critical care services. Many patients reached the hospital for emergency care during the period and benefited, Overall 42% for critical care services is disrupted by Covid-19 the key reasons behind it is the reassignment of health staff from their primary service to support COVID-19. [9] The expansion of critical care capability has inevitably led to redeployment of staff, space, equipment and drugs intended for anaesthesia and peri-operative care. [10] **Dobbs T, et al.** found in their study that other sources make similar estimates of surgical workload lost, with numbers of patients added to waiting lists being estimated as approximately 1.5–2 million. [11] There is some evidence that samples from hospitals with less systemic stress. The hospitals that responded, likely to represent between a third and half of all critical care units, reported approximately 900 mutual aid admissions in December 2020 to January 2021.

This is broadly consistent with data from the Intensive Care Research and Audit Centre which recorded 1971 transfers between critical care units in December 2020 and January 2021, including 1634 for mutual aid. [12]

## CONCLUSION

We observed in our study that in both years majority of the IPD patients registered were middle aged females and belonged to lower SES as the gynecological cases were predominant, with compare to pre Covid-19 year the conversion rate of ayushman registration was increased from 66% to 90% despite the nation wise lockdown and restricted transport services.

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