

# Coverage, utilization, and impact of Ayushman Bharat scheme among the rural field practice area of Saveetha Medical College and Hospital, Chennai

Vishnu Priya Sriee G.V<sup>1</sup>, G. Rakesh Maiya<sup>2</sup>

<sup>1</sup>III MBBS, <sup>2</sup>Department of Community Medicine, Saveetha Medical College, Thandalam, Chennai, Tamil Nadu, India

## ABSTRACT

**Introduction:** Ayushman Bharat scheme, otherwise called as Pradhan Mantri Jan Arogya Yojana (PMJAY), is a National Health Protection Scheme introduced on 23 September 2018 by the government of India to aid the economically disadvantaged families. **Aim:** The study was initiated to estimate the coverage, utilization, and impact of Ayushman Bharat scheme in the rural field practice area of Saveetha Medical College and Hospital, Chennai. **Settings and Design:** This is the cross-sectional study conducted in the rural field practice area of Saveetha Medical College and Hospital, Chennai. **Methods and Material:** This cross-sectional study done among 300 households in Mappedu region of Thiruvallur district, Tamil Nadu. Simple random sampling was done to choose the study participants to reach the sample size of 300. Data was collected using semi-structured questionnaire. After the entry of data, the descriptive statistics was presented in frequency tables and graph. **Result:** The study found that out of 300 households only about 42.33% of the households were covered under Ayushman Bharat scheme. Among the households covered under Ayushman Bharat scheme, 47.24% households have availed Ayushman Bharat scheme in the past 1 year and only 10% of those availed the scheme has spent additional amount for health care. Around 39.88% of the households not having Ayushman Bharat scheme has faced financial burden because of health care expenditure. **Conclusion:** Creating awareness, appropriate governance, and working toward quality assurance, prompt referral pathways in both public and private healthcare providers can make Ayushman Bharat scheme effective.

**Keywords:** Ayushman Bharat scheme, coverage, health care expenditure, impact, utilization

## Introduction

India is one of the developing country in the world having 1.3 billion population, of which 66% of population resides in rural area and 34% resides in urban area.<sup>[1]</sup> According to World Health Organization (WHO), Universal Health Coverage (UHC) is to enable all people and communities to use promotive, preventive, curative, rehabilitative, and palliative health care services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user

to financial hardship. It incorporates equity in access, quality, and financial risk protection.<sup>[2]</sup>

According to the latest National Health Profile (NHP) data, despite an increase in health care expenditure in India since 2019, the public expenditure on medical services is among the lowest in the world. As per Organization for Economic Co-operation and Development (OECD), India's total healthcare spending is 3.6% of GDP.<sup>[3]</sup> According to Indian Consumer Economy 360 survey, the average medical expenditure in India is about ₹9,373.<sup>[4]</sup> High out of pocket expenditure makes health care services inaccessible to significant proportion of Indian households. The financial constraints is the limiting factor among the population who did

**Address for correspondence:** Dr. G. Rakesh Maiya,  
Department of Community Medicine, Saveetha Medical College,  
Thandalam, Chennai - 602 105, Tamil Nadu, India.  
E-mail: rakeshmaiyag@gmail.com

Received: 31-08-2020

Revised: 25-10-2020

Accepted: 28-10-2020

Published: 08-04-2021

### Access this article online

#### Quick Response Code:



**Website:**  
www.jfmpc.com

**DOI:**  
10.4103/jfmpc.jfmpc\_1789\_20

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**For reprints contact:** WKHLRPMedknow\_reprints@wolterskluwer.com

**How to cite this article:** Sriee GV VP, Maiya GR. Coverage, utilization, and impact of Ayushman Bharat scheme among the rural field practice area of Saveetha Medical College and Hospital, Chennai. J Family Med Prim Care 2021;10:1171-6.

not avail medical care. Most of the urban or rural population overcome their health expenditure by taking bank loans or by selling their assets. The health profile report released by WHO in 2014 states that in India because of high out of pocket expenditure annually about 3.2% Indians fall below the poverty line and also three-fourth Indians spending their entire income on health care and purchasing drugs.<sup>[4]</sup>

In order to facilitate UHC, Indian government has launched an ambitious health care scheme called “Ayushman Bharat.” The Ayushman Bharat scheme essentially has two components: Pradhan Mantri Jan Arogya Yojana (PMJAY) and Health and Wellness Centers (HWCs).<sup>[5]</sup> The PMJAY is a publicly financed health insurance scheme for the socioeconomically deprived rural and selected occupational category of the urban population. It aims to cover 100 million households and approximately 500 million people of the country, which roughly accounts for 40% of the total population.<sup>[5]</sup> The benefits package under the PMJAY includes cashless treatment until 500,000 rupees for each family every year on a family floater basis. Around 1,350 medical and surgical procedure are included under the scheme which is claimed to include almost all secondary and most of the tertiary care procedures. It allows the beneficiaries to avail free services from either public or an impanelled private hospital. All preexisting diseases are also covered, and the hospital is not allowed to charge any fee.<sup>[5]</sup>

The execution of PMJAY scheme is authorized by the state government. The state is allowed to continue their existing programs parallel to national program or coordinate them with the new scheme. The states can either cover services directly as in Andhra Pradesh or mix the existing scheme of the state with PMJAY as in Tamil Nadu and Gujarat.<sup>[6]</sup>

Chief Minister’s Comprehensive Health Insurance Scheme (CMCHIS) in the state of Tamil Nadu is programming for more than 7 years. This scheme covers the families with an annual income of less than ₹72,000 and offers ₹1 lakh to ₹2 lakh for particularized procedures. The 1.4 crore families covered under the scheme can avail free medical services in any hospital (both government and private).<sup>[7]</sup>

The state of Tamil Nadu coordinate the existing CMCHIS with PMJAY called PMJAY-CMCHIS providing coverage for about 1,400 procedures in the 2,100 empanelled hospitals under the scheme. A beneficiary can avail Ayushman Bharat scheme with CMCHIS card.<sup>[7]</sup>

In sequence to rise in chronic non-communicable diseases like hypertension and diabetes, Ayushman Bharat is driving to strengthen the health care system by integration of traditional medical therapy with allopathy at Public Health Centres (PHCs).<sup>[8]</sup>

A health insurance plan is one of the most reliable method to provide financial coverage to the insured family. Since this is the new scheme, there is less knowledge regarding it and hence this

cross-sectional study has been undertaken to find the coverage, utilization, and the impact of the scheme.

## Methodology

### Study design

This is the community-based cross-sectional study.

### Study area and population

The rural field practice area of Saveetha Medical College and Hospital which is Mappedu is the study area. Mappedu is a large village located in Thiruvallur Taluka of Thiruvallur district, Tamil Nadu. The Mappedu village has population of 4,205 of which 2,098 are males while 2,107 are females as per Population Census 2011.<sup>[9]</sup> The rural field practice area located in Mappedu is the study area. Using the formula  $4pq/d^2$  with 5% allowable error and 95% CI using the prevalence of 25% of overall health insurance coverage in India based on previous report, 300 is the estimated sample size.<sup>[10]</sup> A register containing the list of households in the rural field practice area was available at the health center. Simple random sampling using lottery method was used to select the households. After obtaining consent, the head of the family or in his absence the eldest adult in the households were taken as respondents.

### Inclusion criteria

The study includes all the households selected through sampling method.

### Exclusion criteria

The individuals who did not give consent or the households which did not have any member above 18 years or the households that was locked at the time of survey were excluded from the study and the next house fitting the inclusion criteria was selected.

### Study period

The study was carried out between the period of January 2020 and March 2020.

### Study tool

The data was gathered using a pretested semi-structured questionnaire. Data collection was done by house to house visit and the head of the family or in his absence the eldest adult in the households was interviewed using semi-structured questionnaire. The questionnaire consisted of details regarding sociodemographic characteristics, awareness, and coverage of Ayushman Bharat scheme, health care expenditure in the past 1 year, utilization of the Ayushman Bharat scheme, and their impact on their family.

### Data analysis

Data entry was done and the descriptive statistics were presented in frequency tables and graph. The Chi-square test was used to find the statistical difference in the categorical variables and a  $P < 0.05$  was regarded as significant.

### Ethical approval and informed consent

The study proposal was approved by the Institutional Ethical Committee of Saveetha Medical College and Hospital 13/3/2020. Informed consent was obtained from all the study participants before administering the study questionnaire.

### Result

This study is conducted to estimate the coverage, utilization, and impact of Ayushman Bharat Scheme in the rural field practice area of SMCH among 300 households. The findings were described below using tables and figures.

### Sociodemographic characteristics of the study participants

From this study, it was found that majority of the population belongs to upper lower class (47%) according to modified BG Prasad’s classification of socioeconomic status. Among the study participants, majority of them were homemaker (54.33%) [Table 1].

### Awareness and Coverage of Ayushman Bharat scheme among the study participants

It is found that among 300 households, 232 (77.33%) of them were aware of Ayushman Bharat scheme while 68 (22.67%) of the households are not aware of Ayushman Bharat scheme [Figure 1]. Among those who is aware of Ayushman Bharat scheme, 127 (54.74%) of the households are covered

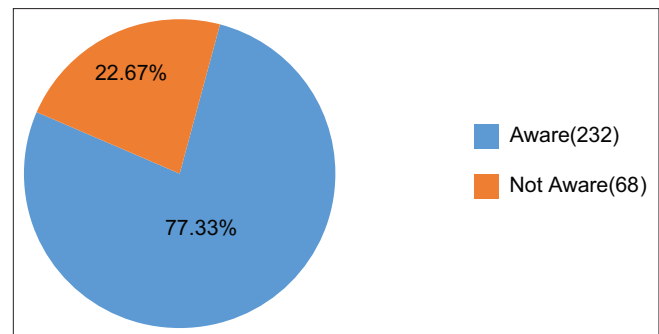
under Ayushman Bharat scheme while 105 (45.26%) of the households are not covered under the scheme [Figure 2]. Overall, 127 (42.33%) of the households were covered under Ayushman Bharat scheme while 173 (57.67%) of them are not covered under the scheme [Figure 3].

### Comparison between the families covered and not covered under Ayushman Bharat scheme with respect to socioeconomic status and having other insurance

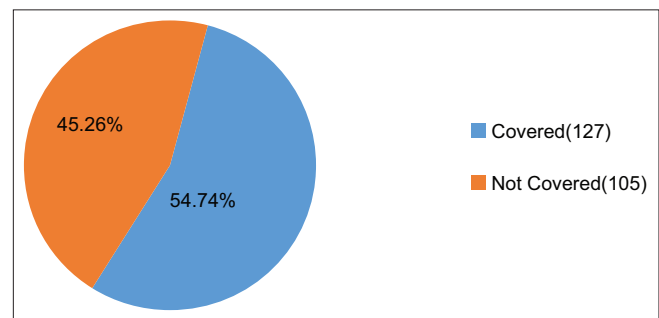
It is found that among households belonging to lower socioeconomic class (12), 10 (83.33%) of lower class were covered under Ayushman Bharat scheme while 2 (16.67%) of lower class not covered under Ayushman Bharat scheme. Among households belonging to upper lower class (141), 90 (63.83%) of upper lower class were covered under Ayushman Bharat scheme while 51 (36.17%) of upper lower class not covered under Ayushman Bharat scheme.

**Table 1: Socio-demographic characteristics of the study participants [n=300]**

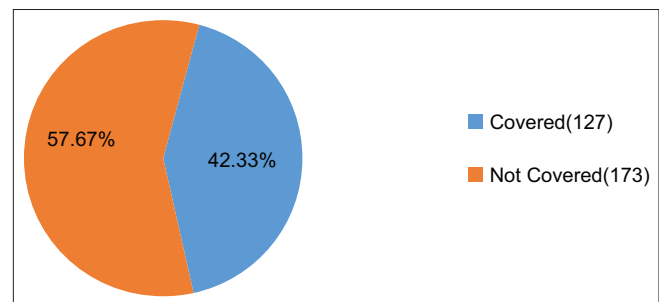
Characteristics	Frequency [n=300]	Percentage
Age group		
<30 years	22	7.33
31-45 years	92	30.67
46-60 years	152	50.67
>60 years	34	11.33
Gender		
Male	97	32.33
Female	203	67.67
Occupation		
Government employee	3	1
Non-government employee	25	8.33
Agriculture	60	20
Self employed other than agriculture	34	11.34
Student	1	0.33
Homemaker	163	54.33
Retired	3	1
Unemployed, unable to work	11	3.67
Socio-Economic status (BG Prasad’s classification for the year 2020) <sup>[11]</sup>		
Upper Middle Class	22	7.33
Lower Middle Class	125	41.67
Upper Lower Class	141	47
Lower Class	12	4



**Figure 1: Awareness of Ayushman Bharat Scheme (N = 300)**



**Figure 2: Coverage among those aware of Ayushman Bharat scheme (N = 232)**



**Figure 3: Covered under Ayushman Bharat scheme (N = 300)**

Among those who have other health insurances (15), 7 (46.67%) of them were covered under Ayushman Bharat scheme while remaining 8 (53.33%) not covered under Ayushman Bharat scheme [Table 2].

### Utilization and impact of Ayushman Bharat scheme among who is covered under the scheme

It is found that 60 (47.24%) of them who is covered under Ayushman Bharat scheme has availed the scheme in the past 1 year while 67 (52.76%) of them who is covered under Ayushman Bharat scheme has not availed the scheme in the past 1 year. Among the families availed Ayushman Bharat scheme in the past 1 year (60), about 10 (16.67%) of them availed for medical conditions, 31 (51.66%) of them availed for surgical conditions and 19 (31.67%) availed for both medical and surgical conditions.

Around 6 (10%) of them has spent additional amount inspite of using Ayushman Bharat scheme while 54 (90%) of the families didn't spend any additional amount by using Ayushman Bharat scheme [Table 3].

### Health spendings and financial burden faced among the families not covered under Ayushman Bharat scheme as per socioeconomic status

The average amount spent by the households not covered under Ayushman Bharat scheme for health care in the past 1 year is ₹7,370 which includes ₹5,375 of inpatient care and ₹1,995 of outpatient care. Among the lower class, the average health expenditure for the past 1 year is ₹1,750, the average health expenditure for the past 1 year of upper lower class is ₹2,460, the average health expenditure for the past 1 year of lower middle class is ₹10,666, and the average health expenditure for the past 1 year among upper middle class is ₹4,190.

It is also found that because of health care expenditure of past 1 year among the 173 households which are not covered under Ayushman Bharat scheme, around 69 (39.88%) of them faced financial burden which includes 2 (2.9%) from lower class, 25 (36.23%) from upper lower class, 40 (57.97%) from lower middle class, and 2 (2.9%) from upper middle class.

## Discussion

Health care is the most essential services required in the community for prevention, treatment, rehabilitation, and preventive care. An efficient health care can significantly contribute to country's economy, development, and industrialization. Unfortunately, due to increase in health care expenses and unexpected illness, many families or individuals pay for health services out of their own pockets and been pushed into poverty. In India due to high out of pocket expenditure annually, about 3.2% Indians fall below the poverty line and also three-fourth Indians spend their entire income on health care and purchasing drugs.<sup>[4]</sup> The main aim of Universal Health Coverage (UHC) is to make the individual or community to access the health care they require without any financial hardship. So in order to achieve UHC, Ayushman Bharat scheme has been launched by the government of India. In Tamil Nadu, PMJAY has been integrated with the pre-existing Chief Minister Comprehensive Health Insurance (CMCHIS) and called as PMJAY-CMCHIS. This study was done to estimate the coverage, utilization, and impact of Ayushman Bharat scheme.

From this study it was found that among 300 households, 77.33% of the households were aware of Ayushman Bharat scheme. Almost similar results were obtained in survey conducted by the National Health Authority where awareness of Ayushman Bharat scheme is 80% in Tamil Nadu.<sup>[12]</sup> The awareness of Ayushman Bharat scheme is higher in Tamil Nadu compared to other states of India due to pre-existing state health Insurance scheme. However, from this study it was found that awareness of Ayushman Bharat Scheme among Lower Class is slightly low.

Among the 300 households, 42.33% households have been covered under the scheme while 57.67% of the households were not covered under the scheme. Almost 65.36% lower class and upper lower class from 300 households have been covered under Ayushman Bharat scheme which is above the national target of 40%.<sup>[5]</sup> Lack of awareness and knowledge about Ayushman Bharat scheme plays a key role in the households not covered under Ayushman Bharat.

In this study it was found that, among the households covered under Ayushman Bharat scheme (127), 47.24% of the

**Table 2: Association between the families covered and families not covered under Ayushman Bharat scheme with respect to Socio-economic class and having other insurance [n=300]**

Characteristics	AyushmanBharat Scheme Covered (n=127)		AyushmanBharat Scheme Uncovered (n=173)		Total n=300		P
	Frequency (n)	Percentage	Frequency (n)	Percentage	n	%	
Socio-Economic Class							
Upper Middle Class	1	4.55	21	95.45	22	7.33	<0.001*
Lower Middle Class	26	20.8	99	79.2	125	41.67	
Upper Lower Class	90	63.83	51	36.17	141	47	
LowerClass	10	83.33	2	16.67	12	4	
Other Insurance							
Have other insurance	7	46.67	8	53.33	15	5	0.72
Don't have other insurance	120	42.10	165	57.90	285	95	

\*P<0.05 statistically significant at 95% confidence interval

**Table 3: Utilization and Impact of Ayushman Bharat scheme among the covered families [n=127]**

Characteristics	Frequency	Percentage
Availed Ayushman Bharat Scheme in the past 1 year? (n=127)		
Yes	60	47.24
No	67	52.76
Condition for availing Ayushman Bharat Scheme (n=46)		
Medical	10	16.67
Surgical	31	51.66
Both	19	31.67
Additional amount spent inspite of using Ayushman Bharat scheme (n=46)		
Yes	6	10
No	54	90

households were availed the scheme in the past 1 year. Almost similar results obtained in the previous study done by Netra G *et al.* where 50.2% of the families utilized some form of health insurance scheme.<sup>[13]</sup>

By making the procedures easy and understandable can enhance the utilization of the Scheme. The primary health care physician plays a key role in improving health care outcome. They can help in guiding the patient and create awareness about the scheme in the general population.

Among the families who have utilized the scheme, only 10% of the families have spent additional amount. The average amount spent for the health care in the past 1 year by the households not covered under Ayushman Bharat scheme is ₹7,370. It was found that around 39.88% of the households not covered under Ayushman Bharat scheme have faced financial burden. This shows that the families not covered under health insurance scheme spent higher amount for medical treatment compared to insured family. The insurance policies should be revised to encourage more families to enroll and utilize the scheme so that out of pocket expenses can be reduced.

## Conclusion

From this study it was found that financial burden because of healthcare expenditure is lower in the households covered under Health Insurance scheme. But due to lack of adequate knowledge many could not utilize or avail the scheme properly. At present, middle income section of the society is not covered under this scheme. So huge or unexpected medical expenditure can push these families below the poverty line. Last year nearly 111 hospitals were named and shamed for malpractices with the scheme. By proper monitoring and governance can prevent these kind of malpractices. The key benefits of this scheme is that beneficiaries can make use of services anywhere in India. Creating awareness will predominantly remain as element of success but modification in the hospital infrastructure, claim processing also plays a key role.

## Acknowledgement

The authors sincerely thank all the participants, faculty of department of community medicine, our college and supportive staff at our rural field practice area.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

## Key Messages

Ayushman Bharat scheme is the National health protection scheme which targets poor, socioeconomically disadvantaged rural families and some occupational category of urban families. The result of this study shows that the families not covered under the scheme has faced some form of financial burden because of health care expenses.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

## References

1. The World Bank. Rural population (% of total population) [Internet]. Data.worldbank.org; c2018. Available from: <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS>. [Cited on 2020 Aug 14].
2. World Health Organization. Universal Health Coverage (UHC) Factsheet [Internet]. Who.int; c2019. Available from: [http://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-\(uhc\)](http://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-(uhc)). [Cited on 2020 Aug 14].
3. Mehra P. India's Economy Needs Big Dose of Health Spending [Internet]. New Delhi: Livemint; 2020. Available from: <https://www.livemint.com/news/india/india-s-economy-needs-big-dose-of-health-spending-11586365603651.html>. [Updated on 2020 April 08; Cited on 2020 Aug 14].
4. Dhaka R, Verma R, Agrawal G, Kumar G. Ayushman Bharat Yojana: A memorable health initiative for Indians. *Int J Community Med Public Health* 2018;5:3152-3.
5. Ayushman Bharat- PMJAY [Internet]. New Delhi: Ministry of Health and Family Welfare, Government of India; 2020. Available from: <https://www.pmjay.gov.in>. [Cited on 2020 Aug 14].
6. Ghosh A. Health Cover Scheme: Who, how [Internet]. New Delhi: The Indian Express; 2018. Available from: <https://indianexpress.com/article/explainedational-health-mission-ayushman-bharat-health-mission-jp-nada-health-budget-5216382/>. [Cited on 2020 Aug 14].
7. Merwin R. Awareness of Ayushman Bharat scheme still low in TN [Internet]. Chennai: The Hindu Business lines; 2019. Available from: <https://www.thehindubusinessline.com/>

- economy/awareness-of- ayushman-bharat-scheme-still-low-in-tn/article26390255.ece. [Updated on 2019 Feb 27; Cited on 2020 Aug 14].
8. Chellaiyan VG, Taneja N. Pradhan Mantri Jan Arogya Yojana- Ayushman Bharat. *Indian J Comm Health* 2020;32:337-40.
  9. Mappedu Population-Thiruvallur, Tamil Nadu [Internet]. Census2011.co.in; 2011. Available from: <https://www.census2011.co.in/data/village/629097-mappedu-tamil-nadu.html>. [Cited on 2020 Aug 14].
  10. Keshri VR, Ghosh S. Health Insurance for Universal Health Coverage in India: A Critical Examination [Internet]. Patna: ADRI; 2019 p. 40. Available from: <https://www.adriindia.org/images/paper/1557397831HealthInsuranceforUniversalHealthCoverageinIndia.pdf>.
  11. Debnath DJ, Kakkar R. Modified BG Prasad socio-economic classification, Updated - 2020. *Indian J Comm Health* 2020;32:124-5.
  12. Sharma N. Ayushman Bharat Awareness 80% in TN, Barely 20% in Bihar and Haryana [Internet]. New Delhi: The Economic Times; 2019. Available from: [https://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/ayushman-bharat-awareness-80-in-tn-barely-20-in-bihar-and-haryana/articleshow/70953467.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/ayushman-bharat-awareness-80-in-tn-barely-20-in-bihar-and-haryana/articleshow/70953467.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst). [Updated on 2019 Sep 03; Cited on 2020 Aug 14].
  13. Netra G, Rao BAV, Kengnal P. Utilization, satisfaction, out of pocket expenditure and health seeking behaviour among the insured residents of rural field area: A cross sectional study. *Int J Community Med Public Health* 2020;7:1047-50.