Original Research Article

Oral health utilization and awareness of Ayushman Bharat (PMJAY) health insurance scheme in Bangalore

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Received: 04 June 2021
Revised: 03 July 2021
Accepted: 16 July 2021

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ABSTRACT

Background: Oral health has a significant impact on quality of life of an individual but often an overlooked component of overall health. Oral diseases are emerging as a major public health concern in India and Ayushman Bharat Yojana focuses to help enhance oral health care of the entire nation. We aimed to assess the awareness and utilization of dental services under Ayushman Bharat health scheme among outpatients in Bangalore hospitals.

Methods: A mixed method comprising case analysis and cross sectional observation was carried out. The annual reports data of Ayushman Bharat scheme in Karnataka was obtained for the case analysis. A cross sectional study was carried out among 150 adults in five Bangalore hospitals and data was collected using self-administered questionnaire. Descriptive statistical analysis was done using SPSS 24.

Results: The study showed that 65.7% of the participants were unaware of Ayushman Bharat health insurance scheme. 25% of the participants were the beneficiaries of this scheme. Only 6% of the study participants availed general treatment under Ayushman Bharat and the treatment availed were for heart surgeries, labour and child birth, tuberculosis and cancer treatments. 12.5% of our participants were aware about dental coverage included in Ayushman Bharat insurance scheme and only 1 participant availed jaw surgery after road traffic accident under this scheme.

Conclusions: This study showed there is high Out-Of-Pocket Payments (OOP) spending and lack of knowledge regarding dental coverage under Ayushman Bharat scheme.

Keywords: Ayushman Bharat, Government health insurance, Dental insurance, Oral health, PMJAY, Universal health coverage

INTRODUCTION

Dental health in India is among the lowest priorities where most of the money is spent on survival and living. Oral health is an important component of overall health, affecting not only the individual but also the health system and economy as a whole. The consequences of widespread poor oral health can be seen at the individual, population, and health system levels, as caries and periodontal diseases deteriorate individual health and well-being, reduce economic productivity, and act as a significant risk factor for various systemic health diseases. In reality, Indian public spending on oral health is comparatively quite negligible when compared to the rest of the world whereas its proportion of private spending on dental health is one of the highest. In India, delivery of oral care is mainly by private practitioners and dental teaching institutions leading to unequal distribution thereby depriving the adequate utilization. There is also no distinct budget allocation for oral health. Therefore, the need of the hour is to transform the public health system into an
In 2018, the Government of India has launched an ambitious health-care scheme known as “Ayushman Bharat” (long live India), widely projected to be a progressive step toward Universal health coverage (UHC) in India. This scheme has two components: Pradhan Mantri Jan Arogya Yojana (PMJAY) and Health and Wellness Centres (HWCs). The PMJAY is a publicly financed health insurance scheme for the socioeconomically underprivileged rural household and selected occupational category of the urban population. It targets to cover 10 crore households and approximately 50 crore people of the country, which roughly accounts for 40% of the total population. The scheme anticipates in reducing OOPE and catastrophic expenditure on health care through participation of private sector in addition to the existing network of public hospitals. The health benefits included are cashless treatment up to 500,000 rupees per family per year on a family floater basis with around 1350 medical and surgical procedures covering all secondary and most of the tertiary care procedures.3

Basic oral health care is introduced as one of the elements of this scheme delivered through HWCs to expand the availability of preventive, promotive, curative and rehabilitative aspects of dental health including referral to appropriate health facilities. To enlist the oral health coverage under PMJAY scheme, care at community level and at HWCs is provided by creating awareness about ill effects of tobacco, oral hygiene education, screening for gingivitis, periodontitis, malocclusion, dental caries, dental fluorosis and oral cancers with referral, tobacco counselling at cessation centres. At referral sites, diagnosis and management of oral cancer, management of malocclusion, trauma cases, tooth abscess, dental caries, surgical and prosthetic care with hospitalization cover is included under this scheme.4

The implementation of the Rashtriya Swasthya Bima Yojana (RSBY) in 2008 and other health insurance schemes in India has generated a huge literature. Though there are studies showing the positive impact of RSBY in improving the poor’s access to inpatient care and protecting them from financial catastrophe, a large number of studies have shown the scheme’s negative side. Given the assessment of RSBY and other publicly initiated insurance schemes for the poor being not very effective in decreasing the out-of-pocket expenditure of the concerned patients, the decision of the government to scale it up and go for a much expanded health insurance scheme needs to be analysed in detail. In this regard, the present study was undertaken with the following objective to assess awareness and utilization of dental services under Ayushman Bharat health scheme among outpatients in Bangalore city hospitals terms of proportions covered at each step such as awareness, enrolment, having card, and utilization.

**METHODS**

A mixed method comprising case analysis and cross sectional observation was carried out for a period of two months from August 2019 to September 2019 to know the awareness and utilization of dental services under Ayushman Bharat scheme.

Case Analysis: The annual reports of Ayushman Bharat scheme in Karnataka was obtained from the official website to know the number of beneficiaries, funds allotted and oral health provisions under the scheme.

Cross Sectional Study: A self-administered questionnaire based study was conducted on 150 adults in the Bangalore hospitals out-patient department. Convenience sampling method was used to select the hospitals in Bangalore. 5 hospitals were chosen conveniently for the study out of which 4 were from Bangalore City and 1 from Bangalore Rural. 30 participants from each hospital were conveniently selected making a sample size of 150 participants. List of empanelled hospitals that were selected for the study are Victoria Hospital, Government Dental College & Hospital, M.S. Ramaiah Hospital, Bowring Hospital, Devanahalli Taluk Hospital. Individuals both males and females above 25 years of age who visited the OPD during the study duration and individuals who gave consent for participation were included for the study. Individuals with systemic conditions and terminal illness were excluded. Furthermore, physically challenged and mentally compromised elders were excluded. Ethical approval was obtained from the Institutional Ethical Committee, M.R. Ambedkar Dental College and Hospital. The written informed consent was obtained from the participants after explaining the objectives and methodology of the study. The subjects were informed that their participation would be entirely voluntarily and they can withdraw from the study at any stage. The participants were assured that their details would be kept confidential.

**Collection of data**

The questionnaire was prepared and validated for its content by a panel of five experts which included staff from the Department of Public Health Dentistry. Data collection was done using self-administered questionnaire which was bilingual both in English and Kannada. The questionnaire consisted of Section A (Socio demographics details) & Section B (12 questions related to Awareness and Utilization of health scheme). The questionnaire was developed through a back-translation and reconciliation method, designed to be self-administered, but trained interviewers were available for anyone who needed assistance. It took respondents about 20 minutes to complete the questionnaire.
Data obtained was compiled systemically in Microsoft Excel 2016 spreadsheet and a master table was prepared. The data set was subdivided and distributed meaningfully. The data was proof read, and later presented in the form of graphs and tables. Descriptive Statistical analyses were performed using a personal computer with Statistical package for social sciences software (SPSS version 26).

RESULTS

In this present study, the annual reports on Ayushman Bharat website provided information regarding the total number of eligible families, the total number of public and private sector empanelled hospitals, the total number of E-cards generated for the scheme beneficiaries, the pre-authorizations raised and claims submitted under Ayushman Bharat Health Insurance Scheme in the state of Karnataka. This scheme is implemented in Karnataka on Trust model basis and around 52,90,927 from state scheme are eligible under this scheme. There are around 405 public hospitals and 371 private hospitals, 11 medical colleges and 17 NABH accredited hospitals which are empanelled under Ayushman Bharat scheme in Karnataka. Around 97,82,697 were generated in the year 2019 in Karnataka and 1,15,284 claims registered in the year 2019 in Karnataka. (Table 1)

Almost 58% (87/150) were not aware of the health insurance schemes. Majority (68%) had not enrolled in any of the government or private health insurance scheme. Only 30% of the respondents had some knowledge about Ayushman Bharat as a National health insurance scheme and the leading source of information were Television, radio and newspaper (17.3%) among them. However, only 8% of our respondents were beneficiaries of Ayushman Bharat health insurance scheme. (Table 3)

Table 1: The annual report of Ayushman Bharat scheme in Karnataka (2019). (Source – Ayushman Bharat PMJAY official website).

| Variables                        | Number of eligible families in Karnataka (2019) |
|----------------------------------|-----------------------------------------------|
| PM - JAY eligible families       | 62,09,073                                     |
| State Scheme eligible families   | 52,90,927                                     |
| Public Hospitals Empanelled      | 405                                           |
| Private Hospitals Empanelled     | 371                                           |
| Medical Colleges                 | 11                                            |
| NABH fully accredited hospitals  | 17                                            |
| E-cards generated                | 97,82,697                                     |
| Pre-Auths Raised                 | 2,61,435                                      |
| Pre-Auths in amount              | 585,73,69,592                                 |
| Claims                           |                                               |
| No of claims submitted           | 1,15,284                                      |
| Claims submitted (INR)           | 283,60,50,430                                 |

Table 2: Socio-demographic characteristics of the respondents.

| Variables                           | Number of subjects (150) | Percentage (%) |
|-------------------------------------|--------------------------|----------------|
| Gender                              |                          |                |
| Male                                | 89                       | 59.3           |
| Female                              | 61                       | 40.6           |
| Religion                            |                          |                |
| Hindu                               | 62                       | 41.3           |
| Muslim                              | 45                       | 30.0           |
| Christian                           | 31                       | 20.6           |
| Others                              | 12                       | 8.0            |
| Sex of Head of Family               |                          |                |
| Male                                | 132                      | 88.0           |
| Female                              | 18                       | 12.0           |
| Education of Head of family         |                          |                |
| Illiterate                          | 55                       | 36.6           |
| Primary/Middle school certificate   | 43                       | 28.7           |
| High school certificate             | 18                       | 12.0           |
| Intermediate or post high school diploma | 22                   | 14.7           |
| Graduate or post graduate          | 12                       | 8.0            |
| Type of housing                     |                          |                |
| Kaccha house                        | 13                       | 8.6            |
| Pukka house                         | 137                      | 91.3           |
| Age of HOF (years)                  |                          |                |
| (Mean ± SD)                         | 43 ± 12                  |                |
| Family Income (Rs.) monthly         |                          |                |
| Minimum                             | 1800                     |                |
| Maximum                             | 38000                    |                |

Participants who had not heard of the term “Ayushman Bharat” were not asked to answer the knowledge related questions. So only 30% (45/150) of the total respondents could fill this part of the questionnaire. In that majority (32/45) opined that Ayushman Bharat health scheme is for the poor and below poverty line households in India. However, only 40% (18/45) of them knew that the scheme benefits can be availed without enrolment process and no
premium to be paid. More than half (24/45) of the respondents were not aware of the Rs.5 lac health cover for every family and this cover having no restriction on family size. Only 20% (9/45) of them knew that the scheme covers pre-existing diseases. 46.6% (21/45) felt that priority is given to the children, women and senior citizens, only 24.5% (11/45) of them were aware of the cashless and paperless administration and registration under this scheme. 42.2% (19/45) of them said this scheme covered surgeries, day-care treatment, hospitalization, vaccination and medicines. (Table 4)

| Table 3: Awareness and source of information about health insurance among respondents. |
|---------------------------------------------------------------|
| **Number of subjects (150)** | **Percentage %** |
| **Aware of health insurance schemes** | |
| Yes | 63 | 42 |
| No | 87 | 58 |
| **Enrollment in any government or private health scheme** | |
| Employees State insurance (ESI) | 16 | 10.7 |
| Rashtriya Swasthya Bhima Yojana (RSBY) | 11 | 7.3 |
| Private health insurance scheme | 12 | 8 |
| Any other center/ state government health scheme | 9 | 6 |
| Not enrolled in any health scheme | 102 | 68 |
| **Ayushman Bharat – PMJAY is a National Health Insurance Scheme** | |
| Yes | 45 | 30 |
| No | 105 | 70 |
| **Source of information about Ayushman Bharat** | |
| TV/Radio/ Newspaper | 26 | 17.3 |
| Family/ Friends | 5 | 3.3 |
| Internet | 4 | 2.6 |
| Panchayat | 8 | 5.3 |
| From ASHA/ ANM | 2 | 1.3 |
| No information about the scheme | 105 | 70 |
| **Are you a beneficiary of Ayushman Bharat Health Insurance Scheme?** | |
| Yes | 12 | 8.0 |
| No | 138 | 92.0 |

Only 8% (12/150) of the total respondents could answer the utilisation of scheme related questions of which the help desks and Arogya Sahayta Kendra at empanelled hospitals helped 58.4% (7/12) of these participants in knowing the fact that they were beneficiaries of Ayushman Bharat health insurance scheme.

| Table 4: Knowledge regarding Ayushman Bharat (n= 45). |
|----------------------------------------------------------|
| **Frequency** | **%** |
| Ayushman Bharat Scheme is for the poor and below poverty line households in India | |
| Yes | 32 | 71.1 |
| No | 13 | 28.9 |
| Benefits of scheme can be availed without enrolment process and no premium to be paid | |
| Yes | 18 | 40.0 |
| No | 27 | 60.0 |
| Healthcare cover of Rs.5lac per family and there is no restriction on family size | |
| Yes | 13 | 423128.8 |
| No | 8 | 17.8 |
| Don’t know | 24 | 53.4 |
| Covers pre-existing diseases | |
| Yes | 9 | 20.0 |
| No | 17 | 37.8 |
| Don’t know | 19 | 42.2 |
| Priority to child, women & senior citizen | |
| Yes | 21 | 46.6 |
| No | 8 | 17.8 |
| Don’t know | 16 | 35.6 |
| Cashless and paperless administration & registration | |
| Yes | 11 | 24.5 |
| No | 18 | 40.0 |
| Don’t know | 16 | 35.5 |
| Covers surgery, daycare – treatment, hospitalization, vaccinations and medicines | |
| Yes | 19 | 42.2 |
| No | 5 | 11.2 |
| Don’t know | 21 | 46.6 |
| Oral health care/ Dental care covered under Ayushman Bharat | |
| Yes | 2 | 4.4 |
| No | 43 | 95.6 |
| Illness covered under the scheme | |
| Maternal and child health services | 10 | 22.2 |
| Cancers | 6 | 13.3 |
| Cardiology | 4 | 8.9 |
| Trauma cases | 5 | 11.1 |
| Non-communicable diseases | 8 | 17.8 |
| All of the above | 12 | 26.7 |

Majority of them (10/12) of them had not availed any treatment in the empanelled hospitals for either themselves or their family members. Accordingly, 11 of the 12 scheme beneficiaries who were among our participants felt that this cashless scheme is useful only for hospitalization and not for OPD services. Whereas, few of them believed that empanelled hospitals are helping the beneficiaries utilize this health scheme. None of our beneficiary participants availed dental treatments at either primary, secondary or tertiary level hospitals. When asked to rate the services of
Ayushman Bharat, 10 of our beneficiary participants could not rate it as they had not utilized the services. (Table 5).

Table 5: Utilization of Ayushman Bharat health insurance scheme among beneficiaries.

| How did you come to know that you are a beneficiary of this scheme? | Frequency (n=12) | % |
|---------------------------------------------------------------|-----------------|---|
| Official website                                              | 0               | 0 |
| Letter from prime minister                                     | 5               | 41.6 |
| After contacting Call center                                   | 0               | 0 |
| Help Desk/Kiosk/ Arogya Sahayta Kendra at the hospitals        | 7               | 58.4 |

Did you or any family member avail any treatment under Ayushman Bharat?

| Yes | 2 | 16.6 |
| No  | 10 | 83.4 |

This cashless scheme is useful only for hospitalization and not OPD services

| Yes | 11 | 91.6 |
| No  | 1 | 8.4 |

The empaneled hospitals are helping the beneficiaries utilize this health scheme

| Yes | 5 | 46.7 |
| No  | 3 | 25.0 |
| Don’t know | 4 | 33.3 |

Did the scheme help you in getting dental treatments

| Yes | 0 | 0 |
| No  | 12 | 100.0 |

Rate the services of Ayushman Bharat health insurance scheme

| Excellent | 0 | 0 |
| Good      | 2 | 16.7 |
| Satisfactory | 0 | 0 |
| Bad       | 0 | 0 |
| Not availed any services yet being a beneficiary | 10 | 83.3 |

Figure 1: Distribution of study participants based on payments made towards personal health expenses.

68% of our total study participants made out of pocket payments (OOP) towards personal health expenses when

24% of them used Government health insurance cover and 8% holding a private health insurance policy. (Figure 1)

Figure 2: Distribution of study participants based on having visited a dentist in the past for different oral problems.

36% of them visited the dentist earlier with a complaint of missing teeth followed by cavity problems (29%) and tooth pain (24%) (Figure 2)

33% of the study participants visited a dental clinic while 29% visited a PHC/CHC followed by private dental colleges (22%) and Government dental colleges (16%) (Figure 3)

Figure 3: Distribution showing facility visited for dental problems by the study participants.

DISCUSSION

The study investigated the level of awareness and knowledge of PMJAY and its utilization among the outpatients visiting the hospital OPDs in Bangalore (Urban and Rural). The awareness regarding some kind of health insurance was 42% which is quite low compared to a community based study done in 2007 by Reshmi et al where 64% were aware of health insurance.5 32% of our study participants were enrolled and covered under some form of health insurance which was slightly higher when compared with the World bank report published in 2012 which stated that 25% of the Indians had access to health insurance.6 The reason for the rise in number may be because of the success of RSBY and other government
funded schemes over the years. Though health insurance is not a new concept as some of them were beneficiaries of the erstwhile RSBY/state specific schemes, the level of awareness and knowledge of PMJAY is not yet high as only 30% of our study participants were aware of Ayushman Bharat health insurance scheme. This may be attributed to low level of education of our study population.

Only 8% of our study participants were beneficiaries of Ayushman Bharat Health insurance scheme (PMJAY). This may also be attributed to low level of education and awareness of our study participants. According to sources, probable reason for very few beneficiaries was found to be that the letters and the beneficiary cards sent to the targeted beneficiaries had reached but not opened since they couldn’t read.

In more than 68% of the study participants, out of pocket expenditure (OOPE) for healthcare treatments was evident. Apparently, PMJAY can potentially reduce the incidence of catastrophic health expenditure for the lower socio-economic class in India. However, its impact on reducing the OOPE will be very limited owing to the fact that currently 60% of OOPE is incurred on outpatient care, which is not included in the scheme. The cost of medicines and diagnostics in OPD are the major contributors to OOP expenditures, which were neither covered in RSBY nor in PMJAY. Ayushman Bharat health insurance scheme can probably be helpful to the lower socio-economic strata population who require frequent hospitalized care or expensive procedure such as dialysis, chronic heart diseases, cancer treatments, orthopaedic surgeries etc.

Most of the study participants visited government hospitals to avail treatments. This could be due to higher number of empanelled hospitals of this scheme coming under Government. The cost of treatments being less in Government hospitals compared to its private counterparts.

Around 96% of our respondents had visited the dentist in the past and got treated. Similar findings have been reported in the World Health Survey (WHS) conducted in 2003 which stated that Karnataka had the highest percent (72%) of respondents treated for oral health problems in India. Only 3% of our study participants were aware about the dental coverage under Ayushman Bharat health insurance scheme. None of our study participants who were beneficiaries had utilized the dental benefits under this scheme. Inadequate awareness amongst intended beneficiaries is a problem common to many government initiatives. Though this scheme provides basic oral health services, tobacco counselling and cessation at the primary and secondary level with hospitalization cover for oral cancer, maxillofacial surgeries and road traffic accidents at tertiary level, none of the participants were aware of the scheme benefits. To overcome this problem, emphasis has to be given to information, education and communication (IEC) activities thereby creating awareness on oral health by the government.

To the best of our knowledge, this is the first study highlighting the awareness and utilization of dental services under Ayushman scheme in Bangalore, full efforts has been put forward to find out the weakness in a small proportion of population visiting the dental hospitals. However, further studies have to carried out at the community level to know the potential of this scheme.

There are few limitations to this study. Results of our study needs to be cautiously interpreted and generalized. For example, study participants were identified from selected hospitals, though ideally Ayushman Bharat beneficiaries and non Ayushman Bharat beneficiaries should have been identified through household surveys. Qualitative methods (focus group discussions or interviews) to obtain in-depth perceptions of the beneficiaries would have better reflected the gaps in the scheme design. A larger sample size could have led to a better in depth analysis of the current status of this scheme in Bangalore.

**CONCLUSION**

It is clear that Ayushman Bharat has some attractive features and the potential to make a big difference to the lives of the poor. The government has played a proactive role in this by making available primary, secondary and tertiary healthcare facilities for the poor which would act as strong pillars in achieving UHC in India. Moreover, for such schemes to achieve their objectives, State Governments have to be more accountable for implementation of the scheme. Oral diseases are a major public health problem with universal distribution and affecting all age groups. However, despite this only few seek dental care. There is a need to bridge the gap between actual dental needs of the population and the demand for dental care. There is lack of awareness and under-utilization of dental services covered under Ayushman Bharat health insurance scheme. Though government health insurance schemes like ESI are operational since 1952, Yashaswini Scheme in Karnataka since 2003, the awareness regarding the benefits of such schemes are still lacking among its beneficiaries. There is a need for dental care to be made available to the rural strata of the population. Dental awareness camps, tobacco counselling sessions and other outreach programs could be the solution to more active utilization of the dental benefits under this scheme.

**Recommendations**

Primary health centres should be of prime focus as they provide health care facilities at grass root level for the inaccessible population. There is an urgent need to strengthen and increase the capacity of health facilities and health infrastructure in the country to meet the demands that will be produced by this scheme. The scheme only targets those living below the poverty line which unjustly
puts a larger segment of the middle class in a very vulnerable position. Mass media and information campaigns can help the scheme to attain its maximum utilization.

ACKNOWLEDGEMENTS

Our heartfelt gratitude to the staffs of our Department. We also thank all the study participants for their co-operation during the study.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Akshay V, Umashankar GK, Pramila M, Maiti R, Aswini M, Manjusha PC. Oral health utilization and awareness of Ayushman Bharat (PMJAY) health insurance scheme in Bangalore. Int J Community Med Public Health 2021;8:4012-8.