

Review article

Awareness, perception, and utilization of the benefits of recently introduced health schemes among the general population of India: A narrative reviewNitin Joseph¹, Sourav Valliyodan², Nitish Shettigar², Hrithik Shetty², Vijayalakshmi Rao², Saloni Ravishankar Kukian²¹Department of Community Medicine, ^{1,2}Kasturba Medical College, Mangalore, Manipal Academy of Higher Education, Manipal, Karnataka, India

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Corresponding author: **Nitin Joseph**. Email: nitin.joseph@manipal.edu**ABSTRACT**

Several health schemes have been introduced by the Government of India in recent years. It becomes essential to know the usefulness of these schemes. This narrative review was done to discuss the awareness, perception, and utilisation of the benefits of recent health schemes. Four schemes either introduced or revised between January 2016 and December 2021 namely AB PM-JAY, PMBJP, NPY, and PMSMA were discussed. Thirteen original articles related to these schemes fulfilling inclusion/exclusion criteria were identified using Web of Science, Scopus, Google Scholar, Embase, and PubMed databases.

Awareness about AB PM-JAY was absent among 22.7% to 77% participants. The prerequisites for beneficiaries like non-payment of professional tax and non-ownership of certain household equipment were responsible for missing the benefits among some poor participants. About one-fourth of the participants reported poor awareness and attitude towards PMBJP. To support PMBJP, people wanted doctors to take the initiative by endorsing and prescribing generic medicines available under this scheme. Awareness about NPY was absent among 8.5% participants. As many as 21.5% to 71.5% of tuberculosis patients did not receive its benefits. Only 7.3% to 52.6% of the tuberculosis patients received the first incentive within two months of intensive phase. Common problems reported were unavailability of savings bank account or Aadhaar number, particularly among those from rural areas. About one-fourth of patients utilised the money to meet their family expenses. Hardly 5% were aware of PMSMA and among them just 32% had utilised antenatal care services. Counselling services were not offered to some beneficiaries. Few shortcomings in these health schemes were identified which need to be addressed by the stakeholders.

Keywords: Awareness; general population; healthcare schemes; perception; narrative review; utilisation.**INTRODUCTION**

India currently faces a dual problem of communicable and non-communicable diseases. However, as per the National Health Profile 2018 given by Central Bureau of Health Intelligence, the government expenditure on health is a mere 1.02% of GDP. As much as 70% of health expenditure in India occurs in the private sector. The percentage of out-of-pocket expenditure (OOPE) out of the total health expenditure stands at 62.7% as per the World Bank report of 2018. Consequent to this, over five crore people are struck with poverty each year due to medical-related expenses (1). To tackle these problems and provide quality health care, the government has periodically launched several health care schemes. Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) initiated on 23rd September 2018, addresses several of these problems. This health insurance scheme offers quality and affordable health services right from primary to tertiary level of care. It provides insurance to cover health care expenses up to Rs. 500,000 per family per year. It aims to provide health insurance to vulnerable sections who cannot access quality healthcare due to economic constraints. As many as 40% of the Indian population who are poor are listed as beneficiaries. This makes this scheme the largest insurance scheme

in the health sector in the world (2). There is no restriction on the number of persons per eligible family. It covers healthcare-related expenses in government and selected private hospitals. It covers up to 1393 procedures, covering all treatment expenses, including drugs, supplies, physician's fees, health care worker's fees, room charges, and operation theatre charges right from 3 days before to 15 days after hospitalisation (2).

According to the National Health Accounts Estimates for India 2016-17, the expenditures on pharmaceuticals are reported to be 36.8% of the total health expenditure. This comprises expenses towards prescribed medicines, drugs dispensed over the counter, and medicines used in inpatient care. To address this concern, Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) was launched in November 2016. It was a revision of the Jan Aushadhi Campaign introduced in 2008. Under this scheme, quality generic medicines at affordable prices were made available at various Jan Aushadhi Kendras across India at prices 50% to 90% lesser than their branded equivalent (3).

Management of communicable diseases like tuberculosis is another area of concern in India. Unsatisfactory treatment outcomes of tuberculosis are seen more commonly among patients from low

socioeconomic backgrounds. This is most probably due to their poor nutritional habits. Undernutrition among them increases their susceptibility to developing active tuberculosis, leading to treatment failure, and delaying recovery (4,5). To improve nutritional care among tuberculosis patients, Nikshay Poshan Yojana (NPY) was launched by the government on 1st April 2018 as a part of the “National strategic plan for tuberculosis elimination 2017–2025” (6). Under this scheme, all tuberculosis patients registered in the Nikshay portal receive Rs. 500 per month throughout the course of tuberculosis treatment. This monetary support is primarily to obtain nutritional support and is offered as Direct Benefit Transfer (DBT) to the bank account of the beneficiaries (7).

Catering to the health needs of vulnerable groups like women and children is another area where health services need to focus upon in India. According to the Ministry of Health and Family Welfare report, as many as 44,000 pregnant women and 6.6 lakh neonates die annually in India (8). The report of various UN organisations states that the number of maternal deaths reported in India over the period 1990 to 2015 is in fact, the most in the world (9). Therefore, to further strengthen the maternal and child health services and to improve the health indicators by improving the coverage and the quality of antenatal care services, Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) was thus launched on 31st July 2016. It is implemented by running PMSMA clinics on the 9th of every month. It ensures that all pregnant mothers complete all their scheduled antenatal visits, and undertake all essential investigations, including blood and urine investigations and ultrasonography. The program also focuses upon the provision of counselling services to the beneficiaries on nutrition and anaemia, birth preparedness, infant feeding practices, and family welfare. The scope also extends to diagnostics, referral, and monitoring of the progress of high-risk pregnancies (8).

Bajpai observed that, although the government recently introduced several such schemes, their implementation was poor (10). There have been issues related to delays in providing services by the health care providers. On the other hand, poor utilisation of the benefits of these schemes has been observed among beneficiaries due to reasons like poor awareness or inaccessibility by Barik *et al.*, (11). There has not been any study among people on the awareness, perception, and utilisation of the benefits of various health schemes introduced by the Government of India in the recent six years. There is hence a need to assess these aspects following the implementation of new health schemes. The feedback given by the people will help the concerned stakeholders to improvise these schemes. This narrative review addresses these requirements.

MATERIALS AND METHODS

Study aim

This review aimed to discuss the awareness, perception, and utilisation of the benefits of various recently introduced health schemes in India. This review was conducted as per PRISMA guidelines. It has been registered with Open Science Framework (OSF).

Search strategy

The search strategy was based on the PICO (patient, intervention, comparison, and outcomes) format. Boolean operators were used with Medical Subject Headings (MeSH) to recognize relevant articles.

Three recently introduced schemes by the Government of India, namely Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), Nikshay Poshan Yojana (NPY), and Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) and one recently revised scheme namely Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana (PMBJP) over the recent six years (between 2016 and 2021) were targeted in this narrative review. It was conducted as per the PRISMA 2020 guidelines. A computerised literature search of articles published on the above-mentioned schemes were done using databases like Web of Science, PubMed, Scopus, Embase, and Google Scholar. Keywords like “awareness”, “perception”, “utilisation”, “recent health schemes”, “AB PM-JAY”, “PMBJP”, “NPY”, “PMSMA” and “India” were used to identify articles published in these databases from 2016 to December 2021. The search strategy was effective as customised Medical Subject Headings (MeSH) terms were used to identify articles.

All the six investigators independently searched the research studies. A total of 52 research studies were identified using the above-mentioned keywords through the above-mentioned databases. After excluding 22 duplicate articles, the number of articles short-listed was 30 (Fig. 1). Each article was further scrutinised for eligibility by the principal investigator. Further information on these schemes was collected from various websites of government agencies by all the six investigators. These included the National Health System Resource Centre, National Health Authority, Pharmaceutical & Medical Devices Bureau of India, Ministry of Health & Family Welfare, and National Family Health Survey, India.

Study eligibility criteria

Inclusion strategy and exclusion criteria

Original articles available in full text, either as print or online version, studies done among human subjects, and those published in the English language were included in this review. Studies that were not available as full text, those on pharmaceutical products without human subjects' involvement, studies that were not

original articles, and study protocols were excluded. The full-text articles were further screened for compatibility with the objectives of this review. The articles that were irrelevant, and those where the study objectives did not match, were additionally excluded (Fig. 1).

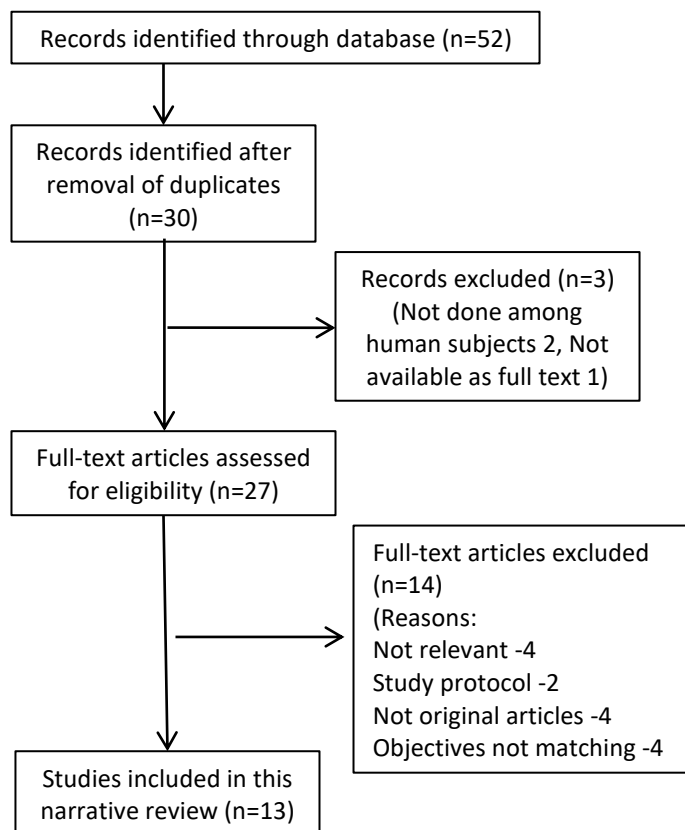


Fig.1: Flowchart showing selection of studies

A total of thirteen articles were finally eligible to be part of this narrative review. This comprised four articles on AB PM-JAY, two articles on PMBJP, five articles on NPY, and two articles on PMSMA.

Risk of bias assessment

All articles qualified for inclusion were assessed for quality before data synthesis. All these studies were observational studies. The National Institutes of Health’s Quality Assessment Tool for Cross-Sectional Studies was used. Two investigators independently performed the quality appraisal. Any discrepancies in the judgments were resolved through discussion with the principal investigator.

Data extraction and quality

The quality of the research articles chosen was ascertained for ethical consideration, robust study

design, inclusion and exclusion criteria used, appropriate sample size and sampling methods and mention of operational definitions. To discuss the observations, the selected articles were re-grouped based on the schemes discussed (Table 1).

DISCUSSION

Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)

A study was conducted by Kanore *et al.*, among construction workers, maidservants, drivers of small organisations, and class IV employees comprising sweepers and peons in urban areas of Pune, Maharashtra (12). The study participants represented the economically disadvantaged population, who are the actual beneficiaries of this scheme. Among them, 51% of the respondents had not heard about the AB-PMJAY scheme. Among the 49% who had heard about it, none were aware of its benefits, and none were aware of whether their families were included in the list of beneficiaries. In another study done in Chennai, Tamil Nadu, 22.7% of the households were unaware of AB-PMJAY, and 57.7% were not covered under the scheme (13). In a study of Thanjavur, Tamil Nadu, reported that 77% of the participants were unaware that the benefits of this scheme could be utilized from empanelled private hospitals. Also, 71% were unaware of the pre- and post-hospitalisation coverage benefits (14). Hence, there is a need to campaign regarding the eligibility criteria and the various benefits of this scheme among the economically disadvantaged population. In the study done in Chennai, Tamil Nadu, reported that 10% out of the 47.3% households reported additional expenses in the recent one year, despite utilising the benefits of this scheme (13). Similarly, Garg *et al.*, in another study done in Chhattisgarh reported that the enrolment in this scheme did not decrease OOPE among the beneficiaries (15). Hence, there is a need to increase the health insurance coverage under this scheme considering the rising cost of healthcare.

Another drawback of this scheme was that middle-class families were not covered and therefore unexpected medical expenditures might drive some towards poverty. Hence, some benefits may be required under this scheme for the middle-class society who incur medical expenses beyond certain limits.

Table 1: Descriptive characteristics of the selected articles

Lead author	Period of study	Study setting	Scheme surveyed	Study design	Data collection tool used	Sample size	Sampling Method
Kanore et al., (12)	2019	Pune, Maharashtra	AB-PMJAY	Cross-sectional	Interview schedule	100	Convenience sampling method
Sriee et al., (13)	2020	Chennai, Tamil Nadu	AB-PMJAY	Cross-sectional	Interview schedule	300	Simple random sampling method
Pugazhenthhi (14)	2020	Thanjavur, Tamil Nadu	AB-PMJAY	Cross-sectional	Questionnaire	200	Convenience sampling method
Garg et al., (15)	2019	Chhattisgarh	AB-PMJAY	Cross-sectional	Questionnaire	15361	Two-stage stratified random sampling method
Patidar et al., (16)	2019	Mehsana district, Gujarat	PMBJP	Cross-sectional	Questionnaire	300	Simple random sampling method
Nagarajappa et al., (17)	2019	Bangalore, Karnataka	PMBJP	Mixed-methods	Questionnaire, Focus group discussion	161, 9 took part in FGD	Convenience sampling method
Nirgude et al., (18)	2018	Dakshina Kannada District, Karnataka	NPY	Mixed-methods	Record based study, Interview schedule	417 TB patient records, 10 TB patients, 10 TB health care providers	Convenience sampling method
Begum et al., (19)	2019	Srikakulam, Andhra Pradesh	NPY	Cross-sectional	Telephonic interview	83	Convenience sampling method
Rohit et al., (20)	2018	Five districts of Karnataka state	NPY	Cohort	Record based information	591	Convenience sampling method
Patel et al., (21)	2019	Vadodara, Gujarat	NPY	Mixed-methods	Record based information, Interview schedule	1826, Interview of 8 health care providers and 11 patients	Convenience sampling method
Kumar et al., (22)	2018	Delhi	NPY	Cross-sectional	Interview schedule	57	Convenience sampling method
Sinha et al., (23)	2018	Belgaum, Karnataka	PMSMA	Cross-sectional	Interview schedule	161	Systematic random sampling method
Vishnu et al., (24)	2017	Mangalore, Karnataka	PMSMA	Cross-sectional	Interview schedule	140	Convenience sampling method

Families of the deprived class who are paying professional tax in their salary were excluded from the list of beneficiaries in this scheme, even though they earn less than Rs 10,000 per month. This was the plight of 21% of the beneficiaries in the Pune, Maharashtra based study who were excluded for the same reason (12). In the state of Maharashtra, a person earning more than Rs 7500 in a month must pay

professional tax. However, people earning the same salary in other states are included in the list of beneficiaries of this scheme as they do not have to pay professional tax. Few families in the Pune, Maharashtra based study were also excluded due to possession of household items like refrigerators (12). Thus, the guidelines for exclusion must be revised so

that every economically disadvantaged population in India gets the benefits of AB-PMJAY.

Pradhan Mantri Bhartiya Jan Aushadhi Pariyojana (PMBJP)

In a study done in rural areas of the Mehsana district of Gujarat by Patidar *et al.*, 26.3% of participants had poor awareness, and 22% had a negative attitude towards this scheme (16). In another study done in Bangalore, Karnataka, the participants expected value for money, trust, quality, availability, and more education regarding the Jan Aushadhi scheme from the doctors (17). The main factor that mattered to the acceptance of this scheme was trust, which needs to be built on the doctor's opinion, and the availability of generic medicines. From the above observations, it can be judged that negative attitudes and lack of acceptance by the public can be improved by motivating doctors to endorse and prescribe generic medicines available under the scheme.

Nikshay Poshan Yojana (NPY)

In the study done in the Dakshina Kannada district of Karnataka state, both beneficiaries and care providers appreciated the NPY scheme as a noble initiative to improve the nutritional status of tuberculosis patients (18). The direct transfer of money to the beneficiary's bank account ensures that the funds are not misused by anybody else. However, several studies reported several barriers related to its implementation.

In a study done at Srikakulam, Andhra Pradesh, Begum *et al.*, observed that 8.5% tuberculosis patients were unaware of the cash incentive provided to avail nutritional care (19). This indicates inadequate communication between the patient and their care providers. Among the 91.5% participants who were aware, 84.3% obtained information about the same from the health workers (19). This indicates the vital role played by health workers to disseminate information on newly introduced schemes among people in a large populous country like India. In previous studies, 21.5% (20), 41.2% (19), and 71.5% (18) tuberculosis patients did not receive the benefits of this scheme. In the study done at Srikakulam, Andhra Pradesh, illiterate patients, and those with low body mass index did not significantly utilise the benefits of this scheme (19). In a study done in Vadodara, Gujarat, more patients from the private sector did not receive the DBT compared to patients from the public sector (21). The public sector is supported by a good network of health workers for the smooth implementation of this scheme. In the private sector, the onus is on the treating practitioner. As facilitating the process of DBT is not mandatory among private doctors, the implementation of NPY in the private sector was poor compared to the public sector. Issues like their busy work schedule and their lack of awareness about NPY could be the reasons behind this observation (21).

Only 7.3% (21), 22.4% (19), and 52.6% (22) of tuberculosis patients received the first incentive within two months of starting treatment. The median time of releasing the first instalment after diagnosis was 2 months (19), 2.5 months (20), 3.4 months (18), and 5.2 months (21) in various studies. Rohit *et al.*, observed that the delay in disbursing the money continued during treatment too, with nearly one-fourth of the patients receiving the benefit after the treatment outcomes (20).

In the study done in Srikakulam, Andhra Pradesh, among the patients who received their money, 41.2% reported having faced several difficulties. This was mainly due to the unavailability of identity proof to open a savings bank account (19). In the study done in the Dakshina Kannada district, Nirgude *et al.*, observed that 30% patients did not have an Aadhaar card, and 26.9% did not have a bank account (18). This was a problem among migrant labourers and very sick patients. About one-third of beneficiaries who had bank accounts did not receive the money as the account was not functional or due to non-matching Indian Financial System Code (IFSC). In a study in Delhi, Kumar *et al.*, reported that the patients stated unavailability of bank accounts or bank accounts without linking to Aadhar card as the common difficulties in receiving the incentives under this scheme (22). The "Pradhan Mantri Jan Dhan Yojana" was later introduced to deal with the problem of the non-availability of bank accounts. Here a bank account is offered to poor beneficiaries with the facility to maintain a zero-account balance (25).

The other issues related to delay in getting DBT was technical problems such as slow internet or activity of bulk processing rather than real-time for each beneficiary (18). There have been issues related to the Nikshay-Public Financial Management System interface leading to slow processing of DBT too. The software needs to have an in-built system to verify the accuracy of the account number of the beneficiary and the IFSC of the bank (21).

Nirgude *et al.*, reported that the delay in payment in the study done in the Dakshina Kannada district was more among patients residing in rural areas (18). This could be because their accounts may be in small cooperative banks that take a longer time for processing.

Begum *et al.*, observed that there has been a report of 20% of patients drawing money from their bank accounts with the help of ASHA workers (19). In a study done in Delhi, health care providers reported increased workload, inadequate training, and cumbersome reporting forms as the main hurdles in its implementation (22). Another important drawback of this scheme was that there was no assurance that the money would be used for nutritional care alone by the patients. For instance, in the study done in

Srikakulam, Andhra Pradesh, 24% of tuberculosis patients utilized the money to meet their family expenses. All the patients who used it shrewdly reported that the amount given under this scheme was insufficient to meet their nutritional requirements (19). There is thus a need to increase the money offered to patients for their nutritional support, timely provision of incentives, and the need for an effective grievance redressal system. The patients also need to be frequently monitored for their nutritional status and to ensure that the money is used for nutritional purposes only and not misused to meet their other expenses. The scheme implementation had difficulties at both the interfaces i.e., the patient and the administrative sides (19).

Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)

A study was conducted by Sinha *et al.*, among postnatal mothers in the field practice area of Belgaum, Karnataka (23). As many as 95% participants were unaware of this scheme. Among the 5% who were aware, hardly 32% of them utilised the antenatal care services under this scheme. Utilisation of services was significantly more among mothers who were aware of this scheme and among those who belonged to joint or three-generation families (23).

Although history, anthropometry, clinical examination, vitals examination, basic investigations, and treatment were provided to all those who utilized the benefits, the last component of PMSMA, which is counselling, was not offered to some participants during their antenatal period. Counselling services particularly were not given to 5.8% participants for nutrition and anaemia, 9.6% for birth preparedness, 15.4% for lactation, and 21.2% for family planning at the PMSMA clinics (23).

In a study conducted in Mangalore, Karnataka, Vishnu *et al.*, observed that only 5% antenatal mothers admitted for safe confinement at a tertiary care hospital were aware of PMSMA (24). There is hence a need to improve awareness of maternal health services offered under PMSMA among the care providers and the beneficiaries so that the antenatal mothers receive all the benefits under this scheme.

CONCLUSION

Awareness about AB PM-JAY, PMBJP, NPY, and PMSMA was missing among several participants of various studies covered in this review. Thus, awareness about recent schemes needs to be further improved among the people which will also improve its utilisation. The utilisation of AB PM-JAY was affected due to issues related to payment of professional tax and due to possession of certain household equipment. To support PMBJP, people wanted doctors to take the initiative by endorsing and prescribing generic medicines available under this scheme. The utilisation of NPY benefit was affected

due to issues related to opening a bank account, unavailability of Aadhar card, software-related problems, relatively lesser support by private practitioners and inadequate training of health workers. Tuberculosis patients felt that incentives offered to improve their nutritional status under NPY were also insufficient. Counselling services were not offered to several PMSMA beneficiaries.

The various problems related to the implementation of recent health schemes need to be addressed so that the perceptions towards these schemes improve among the beneficiaries. This will influence greater utilisation of the services offered under these government schemes resulting in the betterment of the health status of the people of India.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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