Assessing Awareness Levels of a Public Health Scheme in India : An Empirical Study

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Abstract

Purpose : The ultimate success of any public healthcare scheme mainly depends upon the awareness level among the beneficiaries concerning scheme features and means to access the same. This study aimed to assess the knowledge and comprehension of beneficiaries of Pradhan Mantri Jan Arogya Yojana.

Methodology : To examine the level of awareness among the beneficiaries in the state of Karnataka, primary data were collected through a structured questionnaire on a 5-point Likert scale. A sample of 405 beneficiaries was selected among people covered under the Ayushman Bharat scheme between January – December 2021, using a snowball sampling method to check the awareness level of the scheme's features. Factor analysis was applied to group the 11 factors and measure the percentage of variation explained in the level of awareness of the scheme. The analysis of the data obtained was done by applying ordinal logistic regression.

Findings : The study's findings showed that beneficiaries had a thorough comprehension of the main components of the plan, indicating that awareness levels are significantly positive. Further scope persists for improvement in the government's mission to be fully achieved in reaching all poor people in time and protecting them from possible adverse financial impacts.

Practical Implications : The study findings will help policymakers evaluate the effectiveness of these awareness campaigns, providing valuable insights for further development and refinement of the scheme.

Originality : The current research examined the awareness, issues, and their impact on the success of public healthcare schemes through new dimensions.

Keywords : public health scheme, ordinal logistic regression, factor analysis, health insurance, Ayushman Bharat

JEL Classification Codes : I13, I15, I18, I38, H51

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Comprehensive awareness among the beneficiaries is extremely critical for any public health scheme to achieve its core objective of ensuring the right healthcare at the right time for all indigent people. Individuals can survive without education, a car, or a dwelling but not without health, especially when one is economically poor (Bawa & Verma, 2012). The public healthcare schemes of the past have not been successful for several reasons, with lack of awareness being one of the major reasons. The proper knowledge of the scheme

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benefits all the family members and saves lives in the golden hour. As per a survey done in a village with a Rural Health Training Centre too, covering 331 households near Bangalore between October 2011 and December 2011, only 35% of the people knew health insurance (Madhukumar et al., 2012). A cross-sectional study of 403 people at government and private hospitals in the Mangalore belt of Karnataka showed that 25% of the people had neither insurance coverage nor part of the health insurance scheme. Half of the people cited a lack of awareness as the prime reason (Unnikrishnan et al., 2021). India is historically suffering from a very poor healthcare system, mainly due to poor spending, poor access, poor healthcare quality, poor accountability, and corruption, leading to inequity. A study conducted in Bangladesh found that 30% of the rural population is deprived of healthcare support owing to financial constraints (Tabish, 2018). The proper implementation of public healthcare schemes helps in achieving sustainable development goals that are a nation's societal commitment to the World Health Organization (Reshmi et al., 2021). Buying health insurance was unaffordable in the United States. Realizing the obligation, the government introduced healthcare schemes for different classes of people (Thomas & Sakthi Vel, 2011). Every country has a moral responsibility to cater to the health insurance requirements of these segments and ensure effective delivery. The situation is no different in India. A good public healthcare scheme should reduce the out-of-pocket expenses of the beneficiaries significantly, which is currently high; otherwise, the end users will be pushed to further poverty (Hooda, 2020). Universal health is considered a top priority by all G20 countries (Bloom et al., 2019).

Sensing the actual requirement of end users, assessing the drawbacks in the previous schemes, and moving toward universal health, the Central Government in India launched a vastly improved new public healthcare program called Pradhan Mantri Jan Arogya Yojana (PM-JAY) in September 2018, which in English translates to Prime Minister's Public Health Scheme. PM-JAY pays for healthcare expenses when a person is admitted to identified hospitals with cashless facilities. In PM-JAY, the government targeted to cover 107.4 million eligible poor families covering 500 million people approximately. As compared to other public health care schemes, the major improvements in the scheme included hospitalization coverage up to ₹ 500,000 per family per year without any limit in terms of the number of persons covered in the family and without any age limit as far as beneficiaries are concerned. This marks a substantial improvement over popular previous healthcare schemes such as Rashtriya Swasthya Bima Yojana (RSBY). This benefit is offered to financially poor people on fixed eligibility norms. It became the largest health scheme in terms of the number of people covered and also the amount of insurance offered. However, the question is, does this answer the health-related issues of all poor people in full?

Many surveys have proved that most of the public health care schemes have not been much successful earlier, mainly because of a lack of awareness. This study is of paramount importance for society, in general, and poor people, in particular, as the medical emergency has become very common to one and all. Previous findings noted that 84% of the global population is from the low- and middle-income segments, which bear 90% of the overall health issues (Reshmi et al., 2021). Extant literature subscribes to the survey results that economically weaker sections of the people always face difficulty in receiving proper healthcare support. Taking the same forward, the present study intends to investigate how the demographic profile is influencing the awareness of the health security schemes launched by the Government of India. Empirical findings suggest that respondents' level of satisfaction and awareness with any new policy launched by any sovereign country vary depending upon their stages of economic development and across demographic factors within a country, such as gender, occupation, religion, family income, and age (Chakraborty & Digal, 2015). In our study, we added two more demographic profiles to check the efficacy of the analysis to determine the awareness level of the beneficiaries concerning health schemes launched by the Government of India. These include the number of days of stay in the hospital and reasons for admission.

The assessment of the relationship between the beneficiaries' awareness of the health care scheme and the demographic constructs is investigated, which is one of the major objectives of the present study. A theoretical

backdrop to the above relationship of the level of awareness in beneficiaries to other demographic constructs is accompanied by a hypothesis. The expected outcome will discover if no significant relationship exists between the level of awareness of healthcare schemes initiated by the Indian government and the mass population who are eligible for such socially beneficial schemes.

There are extensive works of literature on beneficiary satisfaction levels with medical services in developed nations to our knowledge, but very few studies are noted in developing nations, especially in India. This may be because most people in this part of the world are bothered more about basic survival needs rather than about health services (Goel et al., 2014).

Numerous survey results have established the lack of awareness among beneficiaries (Pugazhenthi, 2021). Throughout the globe, whatever the economic condition of the country, it is an unavoidable and most important responsibility on the part of the government to offer public healthcare schemes to its citizens (Pugazhenthi & Sunitha, 2014).

Therefore, the current study would make a humble attempt to measure the level of awareness among the beneficiaries in detail in the large state of Karnataka, which will help the authorities to take note of the issue better and make an effort to correct it as appropriate. This topic of research is much sought after, as it concerns the government's noble initiative in relieving problems of poor people where huge investment is being made involving numerous challenges.

Review of Literature

Information technology (I.T.) can do wonders in the healthcare industry. It can ensure the availability of quality data besides enabling huge improvements in the quality of service and also lowering expenses. However, India is lagging in this regard with other comparable countries. The people in authority to make policies should ensure the best of the IT that can bring together all stakeholders (Batra & Pall, 2016). In China, one of the major social health schemes initiated by the Chinese government is the health insurance reforms of 2009. This is considered one of the key priorities that constitute an important part of welfare-state building in China and other countries. Since the implementation of public health care schemes such as Ayushman Bharat, the PMJAY has been sluggish, which could be detrimental to the mass workforce of the country (Chen et al., 2022).

One of the studies conducted tried to explore the awareness of beneficiary's understanding that may affect people's risk perceptions and their engagement once the problem is confirmed. The findings suggest that different demographic characteristics tend to be correlated with the preventive behaviors of people in respect of health issues and their diagnosis during a pandemic (Bish & Michie, 2010). Findings from similar other research initiatives have increasingly aired the requirements for more studies to be undertaken to address the prevalence of awareness from various angles. In the wake of the growing awakening of scheme beneficiaries, it is found that mindfulness is a nascent variable that has implications in terms of engagement in the human occupation (Goodman et al., 2019).

The evaluation of awareness levels among 2,700 beneficiary families in three different states from June – July 2019 revealed that the awareness levels of the scheme feature to be low in the states of Bihar and Haryana, but better in the state of Tamil Nadu (Dash et al., 2020). Recurring episodes of health issues in respect of workers in the unorganized sector and their families are a major cause of concern. About 40% of the country's gross domestic product comes through the effort of this segment, and therefore, the well-being of these people is very important. Public healthcare funding should have a balanced approach from the perspective of sustaining and running a good quality program involving all stakeholders. This holds good both for public and private enterprises. However, this is a big challenge globally (Shiri, 2015). The exploratory study of awareness in respect of Ayushman Bharat Yojana among low-income urban families found that about 30% of the rural population did not go to doctors due to financial constraints (Kanore & Satpute, 2019).

The survey of 100 households included questions on the knowledge level of end-users, their occupation/job, and their asset holding. While less than half of the target population had just heard about PM-JAY, the entire 100% population didn't know the benefits. ACKO (2023), a leading general insurance company, through their documented survey results, concluded that the awareness level about health insurance is extremely poor and also found that the poor awareness level is contributed by illiteracy and strong misunderstanding about the health insurance schemes. The evaluation of awareness, access, and utilization level of health insurance among 85 urban clusters in Delhi covering 2,998 families revealed that the majority of this population included migrated families. The study noted that while nearly half of the population knew about life insurance, less than 20% knew about health insurance. The awareness level was lowest among the poorest and most deprived (Kusuma et al., 2018). The evaluation of equity and quality in healthcare access found that the pace of improvement in respect of the health standards of individuals is quite low when compared to the growth pace of the Indian economy. Awareness and trust are important social factors or determinants of equity or inequity (Banerjee, 2020).

Incidents like COVID have left a deep impact financially and otherwise on healthcare professionals as well. Taking care of their well-being also goes a long way in ensuring the best contribution from their side, even in respect of public healthcare schemes (Jamgade & Joshi, 2022). The analysis of hypertension management in a primary care setting in India through a protocol-based model found that, in 2014, 42% of people with hypertension were aware of their diagnosis, and only 20% were under control in the case of urban India. In the case of rural India, 25% of people knew their B.P. while 10% had the same in control. Better awareness always leads to timely medical attention, thereby avoiding bigger tragedies (Satish et al., 2019). In the study of the implementation of the PM-JAY program in the states of Kerala and Tamil Nadu, it was observed that 84% of government hospitals are in rural areas, whereas it accounted for only 39% of government beds, even though approximately 66% of the population lives in rural areas (Pillai, 2020).

Among the five "A"s important to India's healthcare system, the first and foremost is "Awareness." Awareness, access, absence, affordability, and accountability are the most important for the scheme's success. Earlier reviews in Bihar and Jharkhand have proved that proper awareness has improved environmental health, nutritional standards, and reproductive as well as child health issues. The younger generation's involvement and education are the most important steps in improving awareness and bringing behavioral change to the public (Kasthuri, 2018). The survey about the readiness of 411 healthcare workers in Eastern India in respect of their awareness and readiness to implement the PM-JAY program was done through a cross-sectional study between October 2021 and February 2022. They found that the awareness level was low among doctors and nursing staff in respect of a few points related to the scheme, while it was found to be better among faculties (Nirala et al., 2022). The evaluation of PM-JAY awareness level among the 200 beneficiaries, specifically about healthcare support for cancer under the scheme in Thanjavur District, was undertaken. The researcher found that the level of awareness was quite low in the predominantly rural district. Addressing the awareness level is key to the scheme's success (Pugazhenthi, 2021).

The opinion of the person who has availed of the treatment happens to be the ultimate test, which is hugely influenced by the end-to-end process and persons with whom all the interactions happen during hospitalization. However, a lack of technology in India has made the right data unavailable. The instrument used and the type of questions in the same duly linked to the overall objective of the scheme happen to be very important (Shashi Rekha & Aileen, 2018).

Research Methodology

Primary research was conducted with a structured questionnaire, and the data were collected through a comprehensive telephonic survey during the period of the pandemic on a 5-point Likert scale of 405 beneficiaries

of the Ayushman Bharat scheme coverage concerning the scheme's features. These were the people who availed of the scheme benefits. We personally contacted the beneficiaries from January – December 2021 through random sampling. The survey was conducted in the Indian state of Karnataka. The questionnaire contained 12 questions about the awareness aspect of the Ayushman Bharat scheme, which features as : (a) Prior awareness of the scheme *(C1)* (dependent variable); (b) The scheme offers to cover up to Indian rupees 5 lakhs *(C2)*; (c) The opinion of beneficiaries about the coverage up to Indian rupees 5 lakhs being adequate *(C3)* ; (d) Expenses related to bed charges, doctor's consultation fee, nursing charges being fully covered in the scheme *(C4)*; (e) The scheme takes care of operation charges, cost of medical tests, and medicines *(C5)* ; (f) The scheme covers all types of ailments *(C6)* ; (g) The scheme covers all members in the family *(C7)* ; (h) The scheme covers people of all age groups *(C8)* ; (i) Clarity as to hospitalization care only are covered *(C9)* ; (j) Clarity as to out patient department (OPD) services are not covered *(C10)* ; (k) The scheme includes transportation through ambulance *(C11)* ; and (l) The post-hospitalization support up to 15 days is also covered *(C12)*.

The interviewed scheme beneficiaries responded to each awareness aspect according to a Likert scale varying on the following five levels: *"Strongly disagree,"* *"Disagree,"* *"Neither disagree nor agree,"* *"Agree,"* and *"Strongly agree."* The questionnaire also included questions on the demographic profile of the scheme beneficiaries, such as gender, age, occupation, religion, reason for hospitalization, and family income. In deciding the sample size, we relied on Cochran (1963), who suggested a particular formula for a large size population. The reliability of this is documented in Fact Sheet PEOD-6, November 1992, University of Florida. The subject article titled "Determining Sample Size" by Glenn D. Israel is widely adopted in the research field.

Analysis and Results

A descriptive statistical analysis of the sample was carried out by using the demographic information through SPSS 25. Tables 1–4 presents the demographic profile of the respondents.

In Table 1, the sample considered consists of 63% of the total 405 respondents as males and the rest being females. About 41% were unemployed, and 11.6% each were either self-employed or working in the agriculture sector. A total of 9.4% were drivers, 6.7% were factory workers, 5.2% were students, and 4.2% belonged to 'other' categories. A total of 62% of the total respondents were Hindus, 15% were Christians, 11% were Muslims, and 12% decided not to disclose their beliefs.

Table 1. *Demographic Profile of the Sample Selected from the Survey*

Demographic Profile	Count	Percent (%)
Gender		
Male	255	63.0
Female	150	37.0
Total	**405**	**100.0**
Occupations		
Coolie	42	10.4
Driver	38	9.4
Agriculture	47	11.6
Factory Worker	27	6.7
Student	21	5.2
Self-employed	47	11.5
Others	17	4.2

Not Employed	166	41.0
Total	**405**	**100.0**
Religion		
Hindu	251	62.0
Muslim	45	11.1
Christian	60	14.8
Others/Not willing disclose	49	12.1
Total	**405**	**100.0**
Reason for Hospitalization		
Liver/Stomach	48	11.9
Kidney	25	6.2
Accident	71	17.5
COVID	49	12.1
Blood/Blood Sugar	35	8.6
Brain	27	6.7
Heart	22	5.4
Lungs	63	15.6
Others	65	16.0
Total	**405**	**100.0**

Table 2. *Reason for Hospitalization and Family Income*

Reason	Count	Percent (%)
Liver/Stomach	48	11.9
Kidney	25	6.2
Accident	71	17.5
COVID	49	12.1
Blood/Blood Sugar	35	8.6
Brain	27	6.7
Heart	22	5.4
Lungs	63	15.6
Others	65	16.0
Total	**405**	**100.0**
Income (₹) per year		
≤ 36,000	3	0.7
36,001 – 47,999	35	8.7
48,000 – 59,999	135	33.3
60,000 – 71,999	126	31.1
72,000 – 95,999	47	11.6
≥ 96,000	9	2.2
Not willing to disclose	50	12.4
Total	**405**	**100.0**

Table 2, exhibiting the analysis of "reasons for hospitalization," indicates that accident-related hospitalization caused a major concern across the age group and other demographics. In the current study, we brought in an important aspect of how the income level of beneficiaries becomes an absolute concern for low-earning people when they suffer from accidents. In our sample, we represented various health issues so that our findings exemplify the real cause enabling the right policy decisions in the future with dedicated or focused programs by policymakers. We considered 17.5% of the total sample size count for accidents, and 15.6% got admitted due to lungs problems, 11.9% due to liver/stomach-related issues, 6.2% due to kidney problems, 12.1% were related to COVID-19, 8.6% had blood or sugar related disorder, 6.7% suffered from brain-related complications, and 5.4% had heart-related issues. In the same Table 2, further about income distribution, it is noted that 64.4% of the respondents had a family income between ₹ 48,000 and ₹ 72,000, about 9.4% of the respondents had a family income of less than ₹ 48,000, 13.8% had an income of more than ₹ 72,000, and about 12.4% did not disclose their income.

In Table 3, the analysis of the gender and age group mix is done. In terms of accessing healthcare benefits from the government and its agencies, it is found that financial stress poses a major challenge to beneficiaries in terms of age and gender. In this study, we considered an inclusive sample where care is taken to encompass the category of both the demographic profiles for our analysis and findings. More than 75% of the respondents were in the age group of 30–70 years, of which more than 48% were male, and the remaining 27% were female. Nearly 11% were above 70 years, and the rest were of the age below 30 years.

In Table 4, the analysis of age group and occupation mix is displayed. Around 41% of the total respondents were unemployed, of which 29% were between the age group of 30–70 years ; 11.6% were in the agriculture

Table 3. *Age Group vs. Gender*

Age Groups	Male		Female		Total	
	Count	Percent (%)	Count	Percent (%)	Count	Percent (%)
0 – 10	5	1.23%	2	0.49%	7	1.73%
10 – 20	4	0.99%	5	1.23%	9	2.22%
20 – 30	21	5.19%	16	3.95%	37	9.14%
30 – 40	38	9.38%	26	6.42%	64	15.80%
40 – 50	62	15.31%	19	4.69%	81	20.00%
50 – 60	47	11.60%	23	5.68%	70	17.28%
60 – 70	50	12.35%	42	10.37%	92	22.72%
70 – 80	26	6.42%	10	2.47%	36	8.89%
80 – 90	2	0.49%	7	1.73%	9	2.22%
Grand Total	**255**	**62.96%**	**150**	**37.04%**	**405**	**100%**

Table 4. *Occupation vs. Age Group*

Age Group Yrs → Occupation ↓	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70	70 – 80	80 – 90	Total
Not employed	2	2	4	17	16	19	65	32	9	**166**
	0.5%	0.5%	1.0%	4.2%	4.0%	4.7%	16.0%	7.9%	2.2%	**41.0%**
Agriculture	0	0	3	9	12	12	9	2	0	**47**
	0.0%	0.0%	0.7%	2.2%	3.0%	3.0%	2.2%	0.5%	0.0%	**11.6%**

Self-employed	0	0	7	5	16	12	6	1	0	**47**
	0.0%	0.0%	1.7%	1.2%	4.0%	3.0%	1.5%	0.2%	0.0%	**11.6%**
Coolie	0	1	3	11	13	9	5	0	0	**42**
	0.0%	0.2%	0.7%	2.7%	3.2%	2.2%	1.2%	0.0%	0.0%	**10.2%**
Driver	0	0	3	10	11	10	3	1	0	**38**
	0.0%	0.0%	0.7%	2.5%	2.7%	2.5%	0.7%	0.2%	0.0%	**9.3%**
Factory Worker	0	0	5	7	8	5	2	0	0	**27**
	0.0%	0.0%	1.2%	1.7%	2.0%	1.2%	0.5%	0.0%	0.0%	**6.6%**
Student	5	6	9	0	0	0	1	0	0	**21**
	1.2%	1.5%	2.2%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	**5.1%**
Others	0	0	3	5	5	3	1	0	0	**17**
	0.0%	0.0%	0.7%	1.2%	1.2%	0.7%	0.2%	0.0%	0.0%	**4.0%**
Grand Total	7	9	37	64	81	70	92	36	9	**405**
	1.7%	2.2%	9.1%	15.8%	20.0%	17.3%	22.7%	8.9%	2.2%	**100.0%**

Table 5. *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.877
Bartlett's Test of Sphericity	Approx. Chi-Square	4436.859
	df	55
	Sig.	<.001

sector, with the majority of them being above 30 years of age. Similarly, it can be seen that in all the other occupations, the majority of the scheme beneficiaries admitted to the hospital were above 30 years. One person in the age group of 60–70 years claimed to be a student.

Factor analysis is a technique that is used to reduce a large number of variables into fewer numbers of factors. This technique extracts the maximum common variance from all variables and puts them into a common score. The factor variables are not from the original variables directly and simply but are some new factors through new synthesis that can affect original variables, and simultaneously each variable is independent. Therefore, this can effectively overcome multiple co-linearity among original variables. Using IBM SPSS Statistics software, we can obtain initial eigenvalues and extraction sums of squared loadings. Table 5 shows the KMO and Bartlett's test results. The KMO test is used to measure the adequacy of sampling. Its value for this analysis is 0.88. As per Kaiser (1974), the KMO test value between 0.8 and 0.9 is "meritorious." Bartlett's Test tests the null hypothesis that the original correlation matrix is an identity matrix. A significance value less than 0.05 indicates that the dataset does not produce an identity matrix and is thus approximately multivariate normal and acceptable for further analysis (Bourke-Taylor et al., 2013; Field, 2000).

As seen from Table 6, the total variable explained is 77.6% by three factors using Kaiser's criterion (Kaiser, 1960). The criterion retains the components with Eigen values greater than 1. The extraction method used was principal axis factoring because of its focus on shared variance. In other words, principal axis factoring is used when the study focuses on the relationship among the variables.

Table 7 describes the orthogonally rotated factor loading of the variables. Here, Varimax is used for orthogonal rotation. Table 7 represents how the variables are weighted for each factor and the correlation between the variables and the factor. Because these are correlations, possible values range from −1 to +1. Also, the table displays strong factor loading, that is, correlation values greater than 0.5. On further analysis, it can be seen that

Table 6. *Total Variance Explained*

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.328	57.523	57.523	6.125	55.684	55.684	4.093	37.206	37.206
2	1.593	14.479	72.003	1.343	12.208	67.892	2.410	21.910	59.116
3	1.262	11.476	83.478	1.068	9.711	77.603	2.034	18.487	77.603

Note. Extraction method : Principal axis factoring.

Table 7. *Rotated Factor Matrix*

	Factor		
	1	2	3
	Coverage	Recovery	Adequacy
C7	0.910		
C8	0.896		
C6	0.892		
C5	0.791		
C9	0.697		
C11		0.892	
C12		0.776	
C10		0.729	
C2			0.920
C3			0.789
C4			0.547

Note. Extraction method : Principal axis factoring.

Rotation Method : Varimax with Kaiser normalization.

[a.] Rotation converged in six iterations.

variable loading Factor-1 is about the coverage-related questions, Factor-2 is mapped to all the variables related to recovery, and Factor-3 connects all the amount-adequacy variables. Therefore, these factors can be, respectively, called "Coverage," "Recovery," and "Adequacy." Furthermore, the factor scores of "Coverage," "Recovery," and "Adequacy" factors are calculated using the regression method and stored in variables named "Coverage," "Recovery," and "Adequacy." These new variables, along with other demographic variables, are used as predictors in the parameter estimation discussed later.

Cronbach's alpha measures the internal consistency, that is, how closely related a set of items are as a group. It is considered as a measure of scale reliability. As per the psychometric theory, Cronbach's alpha of more than 0.8 suggests relatively high internal consistency among the items (Nunnally & Bernstein, 1994). For this study, Table 8 shows Cronbach's alphas of "Adequacy," "Coverage," and "Recovery," respectively, which are more than 0.8. Moreover, Table 9, Table 10, and Table 11 show the inter-item correlation for "Adequacy," "Coverage," and "Recovery," respectively.

As per the factor analysis, all the variables are clubbed into three broad factors, as stated in Table 7 (rotated

Table 8. *Reliability Statistics*

Adequacy			Coverage			Recovery		
C2, C3, and C4			C5, C6, C7, C8, and C9			C10, C11, and C12		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	*N* of Items	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	*N* of Items	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	*N* of Items
0.827	0.839	3	0.958	0.958	5	0.887	0.887	3

Table 9. *Inter-Item Correlation Matrix of C2, C3, and C4*

	C2	C3	C4
C2	1.000	0.774	0.612
C3	0.774	1.000	0.520
C4	0.612	0.520	1.000

Table 10. *Inter-Item Correlation Matrix C5, C6, C7, C8, and C9*

	C5	C6	C7	C8	C9
C5	1.000	0.840	0.802	0.788	0.707
C6	0.840	1.000	0.909	0.919	0.737
C7	0.802	0.909	1.000	0.961	0.783
C8	0.788	0.919	0.961	1.000	0.771
C9	0.707	0.737	0.783	0.771	1.000

Table 11. *Inter-Item Correlation Matrix C10, C11, and C12*

Inter-Item Correlation Matrix		
	C10	C11	C12
C10	1.000	0.759	0.641
C11	0.759	1.000	0.767
C12	0.641	0.767	1.000

matrix). In Table 8, we have checked the reliability of the data collected and found them very good for adequacy, coverage, and recovery. All three factors show Cronbach's alpha of more than 80%.

Furthermore, the intercorrelation of the variables, as shown in Table 9, states that except for the adequacy of the amount of sum assured and the bed charges, all other variables are closely related, indicating that the scheme is fully taking care of the need of the beneficiaries, to their knowledge and their satisfaction. The correlation matrix, as presented in Table 10, exemplify that sum assured for the operation charges and different types of ailments, tests, and medicine cost is fully covered in the scheme across the age group and known to beneficiaries.

On an interesting note, post availing of the facility, the recovery of the expenses from the insurance, or no financial impact due to a cashless facility is of paramount importance for poor people who have suffered health issues. Table 11 shows a high degree of positive correlation between awareness of OPD exclusion, ambulance

expenses, and post-hospitalization expenses. It can be interpreted that the beneficiaries are expected to be happy after the healthcare support in all respects. In this case, the scheme allows free cashless follow-up monitoring after discharge.

Ordinal Logistic Regression

Ordinal logistic regression is a statistical analysis method that can be used to model the relationship between an ordinal response variable and one or more explanatory variables. An ordinal variable is a categorical variable for which there is a clear ordering of the category levels. The explanatory variables may be either continuous or categorical (Ananth & Kleinbaum, 1997; Brant, 1990). For this study, the overall awareness response is taken as the dependent variable. The factors, adequacy, coverage, and recovery, from the previous factor analysis, are taken as predictors along with gender, occupation, religion, the reason for hospitalization, and family income.

Table 12 shows the model fit with a significant reduction in the chi-square value ($p < 0.001$). Therefore, the model is a significant improvement over the baseline or intercept-only model.

Goodness-of-fit is shown in Table 13. As there are 1,581 (79.8%) cells (i.e., dependent variable levels by observed combinations of predictor variable values) with zero frequencies, we should be wary of the accuracy of the goodness-of-fit test. The Nagelkerke R^2 in Table 13 indicates that the model can account for 31.9% of the variance in the overall awareness about the scheme.

Table 12. *Model Fitting Information*

Model	−2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1065.188			
Final	922.703	142.485	28	<0.001

Note. Link function : Logit.

Table 13. *Goodness-of-Fit and Pseudo R-Square*

	Chi-Square	df	Sig.	Pseudo *R*-Square	Sig.
Pearson	2051.730	1552	<0.001	Cox and Snell	0.297
Deviance	918.545	1552	1.000	Nagelkerke	0.319
				McFadden	0.133

Note. Link function : Logit.

Table 14. *Test of Parallel Lines*

Model	−2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	922.703			
General	828.895[b]	93.808[c]	84	0.218

Note. The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.

[a.] Link function : Logit.

[b.] The log-likelihood value cannot be further increased after the maximum number of step-halving.

[c.] The chi-square statistic is computed based on the log-likelihood value of the last iteration of the general model. The validity of the test is uncertain.

The proportional odds assumption is key to ordinal logistic regression. The assumption is that the effects of any explanatory variables are consistent (proportional) across the different thresholds (by thresholds, we mean the splits between each pair of categories of ordinal outcome variable). In other words, the explanatory variables have the same effect on the odds regardless of the threshold. SPSS tests this assumption with what it calls the "Test of parallel lines." If the test is statistically significant, then we must reject the hypothesis of proportional odds. However, it can be seen in Table 14 that the significance of the general model for the "Test of Parallel lines" is 0.218. Thus, the null hypothesis of the proportional odd assumption cannot be rejected.

Table 15 lists parameter estimates under the test of parallel lines. This table specifically tells us the relationship between our explanatory variables and the outcome. The threshold coefficients are not usually interpreted individually. The model confirms that there are systematic influences of gender, occupation, religion, the reason for hospitalization, family income, and general awareness about amount adequacy, coverage, and recovery on the overall awareness of the PM-JAY scheme. As seen from Table 15, the variables adequacy, coverage, and recovery are statistically significant. Males are significantly more likely to be strongly aware of the scheme, even after

Table 15. *Parameter Estimates*

		Estimate	Std. Error	Wald	df	Sig.
Threshold	*C1 Strongly Disagree*	2.474	0.749	10.919	1	<0.001
	C1 Disagree	4.156	0.765	29.535	1	<0.001
	C1 Neither Disagree nor Agree	4.184	0.765	29.897	1	<0.001
	C1 Agree	6.661	0.808	67.926	1	<0.001
Location	Gender Male	0.513	0.239	4.621	1	0.032
	Gender Female	0[a]	.	.	0	.
	Occupation Coolie	–0.596	0.357	2.787	1	0.095
	Occupation Driver	–0.275	0.404	0.464	1	0.496
	Occupation Agriculture	–0.794	0.364	4.747	1	0.029
	Occupation Factory Worker	–0.628	0.422	2.215	1	0.137
	Occupation Student	–0.164	0.464	0.124	1	0.725
	Occupation Self-Employed	–.299	0.393	0.579	1	0.447
	Occupation Others	0.565	0.523	1.168	1	0.280
	Occupation Unemployed	0[a]	.	.	0	.
	Religion Hindu	0.912	0.309	8.696	1	0.003
	Religion Muslim	–.096	0.405	0.057	1	0.812
	Religion Christian	0.512	0.379	1.831	1	0.176
	Religion Others	0[a]	.	.	0	.
	Reason Diagnosis Liver or Stomach	–0.088	0.372	0.056	1	0.814
	Reason Diagnosis Kidney	0.189	0.462	0.168	1	0.682
	Reason Diagnosis Accident	–0.047	0.340	0.019	1	0.890
	Reason Diagnosis COVID-19	–0.953	0.378	6.340	1	0.012
	Reason Diagnosis : Blood or Blood Sugar	–0.136	0.410	0.110	1	0.740
	Reason Diagnosis Brain	–0.013	0.442	0.001	1	0.977
	Reason Diagnosis Heart	–0.047	0.479	0.010	1	0.922

Reason Diagnosis Lungs	0.163	0.351	0.215	1	0.643
Reason Diagnosis Others	0ᵃ	.	.	0	.
Family Income Less than ₹ 36,000	0.016	1.140	0.000	1	0.989
Family Income ₹ 36,001 – ₹ 47,999	0.620	0.461	1.810	1	0.179
Family Income ₹ 48,000 – ₹ 59,999	0.559	0.355	2.490	1	0.115
Family Income ₹ 60,000 – ₹ 71,999	0.497	0.338	2.163	1	0.141
Family Income ₹ 72,000 – ₹ 95,999	0.256	0.397	0.417	1	0.518
Family Income Above ₹ 96,000	−1.429	0.713	4.016	1	0.045
Family Income Not willing to disclose	0ᵃ	.	.	0	.
Adequacy	0.547	0.186	8.629	1	0.003
Coverage	0.429	0.133	10.456	1	0.001
Recovery	0.454	0.110	16.900	1	<0.001

Note. Link function : Logit.

[a.] This parameter is set to zero because it is redundant.

occupation, religion, the reason for hospitalization, family income, and aspects of adequacy, coverage, and recovery are controlled.

Keeping other predictors constant, people working in the agriculture sector are more likely to be not aware of the scheme than comparable unemployed. There is no statistical significance for other occupations. Hindus are more likely to be aware of the existence of the scheme than those who did not disclose their faith. Scheme beneficiaries diagnosed with COVID-19 are more statistically significant as compared to those who were admitted for other reasons. Also, scheme beneficiaries having family incomes of more than Indian rupees 96,000 are less likely to be aware of the scheme than those who declined to disclose their incomes.

Conclusion

The PM-JAY scheme is meant to offer financial relief to poor people in case of a medical emergency in the family. This comprehensive and well-intended scheme should not go to waste due to a lack of awareness among the people. From the analysis, we note that the awareness level is relatively lower among different demographic groups. From this study, it is noted that an increase in the level of awareness has a strong positive impact on the family of the poor. Among the two genders, there is a necessity to improve the awareness level among the female beneficiaries. People involved in occupations like agriculture need a focused program to improve awareness.

Furthermore, beneficiaries belonging to minority religions and others who have not disclosed their religions need to be supported with better awareness to ensure they are not financially impacted in case of ill health. Likewise, even the segment of people with slightly higher income brackets is required to be informed of the scheme's availability and its benefits to make use of the same and protect themselves from financial jolts in case of health exigencies. To conclude the findings, it is imperative to suggest that the sovereign government initiate corrective actions through focused programs to improve awareness among people of different genders, occupations, age bands, religions, economic conditions, and other related aspects based on the identified needs.

All the stakeholders should do extensive campaigns and ensure all family members have complete awareness. One of the concluding suggestions derived from the process of this primary survey is to enhance the level of awareness encompassing the school children, too, and include the topic in their curriculum. School and college-going children may also be involved in creating awareness as they do the same with passion. The government has to look at increasing the budget based on the needs of each region for improving the level of awareness, but the approach to be followed may differ from place to place based on the current level of awareness, literacy, and ethnic

issues. The frequency of the awareness campaign is also equally important and needs to be reviewed based on the positive impact gained. It is found that the role of media in the attentiveness of millennials is very positive. The research team noted that the perception of healthcare was quite influenced by the media (Singh et al., 2021). To gauge that government can extensively involve local people with due accountability is key. Stakeholder management is critical in administering healthcare services for sustainable results and for end users to be given justice with quality as well as timely service (Shiri, 2014). Health issues are more critical than education and shelter; the authorities should give maximum importance to addressing awareness issues and thereby save poor families from the worst possible nightmares, particularly when a breadwinner is affected.

Managerial and Theoretical Implications

The study's conclusions would offer managers and decision-makers involved in public health programs in India useful information. Managers can use the survey findings to pinpoint areas where there are knowledge gaps and create focused initiatives to reach and educate PM-JAY holders about the scheme's main features. By assessing awareness levels, managers can allocate resources more efficiently. The study's findings can aid in identifying regions or demographic groups with lower awareness levels, allowing for targeted resource allocation to improve awareness in those areas. This targeted approach can maximize the scheme's impact by ensuring that the resources are directed to the most needed areas. The study provides factual evidence of how knowledge about public health initiatives spreads across the target population by measuring awareness levels. These results can be used to improve and broaden theoretical frameworks like the social diffusion theory.

Limitations of the Study and Suggestions for Future Research

As the issue of awareness is more specific to regions, and as the type of problem varies from place to place, region-wise comprehensive research is suggested. It will help in developing customized solutions for each state, which will do a lot of good for society. The study from the perspective of all other stakeholders, like health departments and hospitals, can also help explore the issue much better.

Authors' Contribution

N. S. Prakash conceived the idea, developed the research article, and collected the data from secondary sources and primary responses from the selected sample of the scheme beneficiaries. Dr. Suman Chakraborty tracked down the themes and proposed research directions through the review of the literature and interpreted the analytical findings. Dr. Suman Chakraborty wrote the implications and conclusion section along with the section on limitations and future scope. Dr. Sabat Kumar Digal provided two rounds of review editing and lingual improvements in the paper.

Conflict of Interest

The authors certify that they do not have affiliations with or involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

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