

## Improving Ayushman Bharat's Impact: Beneficiary Identification System Awareness and Use

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### KEYWORDS

Beneficiary  
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Jan Arogya Yojana  
(AB-PMJAY)

### ABSTRACT

**Background:** The study focuses on awareness and utilization of the Ayushman Application, emphasizing its key feature: the Beneficiary Identification System. The background points out the potential that digital applications such as Ayushman hold in expanding accessibility to healthcare benefits under government schemes.

**Objective:** This study aims to determine factors that influence awareness, evaluate the success of promotional efforts, and measure the extent of awareness regarding this application.

**Method:** It utilizes a mixed-method approach and incorporates both quantitative & qualitative analyses. Data is sourced through primary sources of surveys and interviews and secondary sources of reports and publications. This study uses stratified random sampling, targeting 217 respondents who are either current or potential users of the Ayushman Application. The analytical tools used here include SPSS and Excel, with techniques like the Chi-square test to test hypotheses.

**Result:** The Pearson chi-square statistic stated significant association between income level and awareness level of Ayushman application (0.030, p-value < 0.05), education level and Ayushman application (0.013, p-value < 0.05), age and Ayushman application (0.027, p-value < 0.05). Study addresses the technical and social barriers, in terms of unreliable internet connections, resistance to digital tools, and infrastructure-related issues, such as lack of device access barriers, hindered the application's reach.

**Conclusion:** The remained gaps in the awareness and utilization of the Ayushman Application due to a lack of internet access, low internet literacy, and infrastructural issues, which were partly evident in the rural areas, as noted by the study. Such findings call for informative, expansive, and tailored outreach to counter such hindrances

## 1. INTRODUCTION

The Central Government of the Indian initiative Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) to elevate health services for economically vulnerable populations. The scheme provides free secondary & tertiary care hospitalization up to 5 lakhs annually per family in various empanelled public and private hospitals [1]. The scheme targets over 10.74 crore families to cover the bottom 40% of the population with significant identification according to Socio-Economic Caste Census (SECC) 2011 data. AB-PMJAY reduces financial barriers to accessing healthcare, alleviates catastrophic health expenditures, and ensures equal quality of healthcare services. One of the critical components of the scheme is the Beneficiary

Identification System (BIS), which helps to ensure the correct identification and verification of beneficiaries [2] [3]. It plays a central role in the Ayushman Bharat application as it digitizes the enrolment process to make it more transparent and efficient. Hence, the effectiveness of the AB-PMJAY is highly dependent

Without a proper understanding of the BIS and how it works, beneficiaries may struggle with the system, which may lead to underutilization of the scheme's benefits [4] [5]. This potentially defeats the purpose of universal health coverage designed for underprivileged groups. [6] [7]. The study's geographical and demographic scope focuses on understanding how AB-PMJAY is implemented and its impact, primarily through utilizing the BIS within the targeted regions and population groups

## **2. RESEARCH METHODOLOGY**

The study applied a mixed-method approach, where two contrasting methods, both quantitative & qualitative research, were used to measure awareness and utilization levels of a particular program. The target population included both the current and potential users of the AB-PMJAY program. 217 responses were collected using the stratified random sampling method through a structured questionnaire. The survey was conducted in the Gandhinagar District of Gujarat State. The questionnaires were administered to both the program's users and potential users so that data might be collected from the entire population. To determine the relationships between categorical variables, the Chi-square test was adopted utilizing tools like SPSS and Excel.

### **Hypothesis**

H1: There is a significant relationship between demographic factors (e.g., age, education, income) and awareness levels about the Ayushman Application.

## **3. RESULT**

Table 1 displays the demographic characteristics of the users and potential users regarding their gender, age, education level, income level, and awareness level of the Ayushman application. Out of 217 respondents, the majority, i.e., 123 (56.7%), are males and only 94 (43.3%) are females. The highest number of respondents belongs to the 26-40-year-old age group, i.e., 98 (45.2%) respondents. Many respondents have higher secondary education, i.e., 68 (31.3%) respondents. According to the income distribution, 44.7%, i.e., 97 respondents make above Rs. 30,000. 67 (30.9%) respondents say that they are fully aware of the Ayushman application, 72 (33.2%) respondents say that they are not aware, and 78 (35.9%) say that they are somewhat aware. Therefore, there is a need for focused educational and awareness campaigns, particularly for lower-income and less-educated populations.

Table 2 presents the results of Chi-square tests. The Pearson chi-square statistic is 10.951, with a significance level of 0.027 ( $p$ -value < 0.05), indicating a statistically significant association between "age" and "awareness level of the Ayushman application." The likelihood ratio (11.644,  $p$  = 0.020) supports this finding. The findings indicate that age significantly impacts awareness levels of the Ayushman application, with variations in awareness among age groups.

Table 3 presents the results of Chi-square tests. The Pearson chi-square statistic is 19.374, with a significance level of 0.013 ( $p$ -value < 0.05), indicating a statistically significant association between "education level" and "awareness level of the Ayushman application." The likelihood ratio (20.169,  $p$  = 0.010) supports this finding. The results indicate that awareness of the Ayushman application differs significantly across educational levels, necessitating targeted initiatives to enhance awareness among specific educational groups for improved effectiveness.

Table 4 presents the results of Chi-square tests. The Pearson chi-square statistic is 10.720, with a significance level of 0.030 ( $p$ -value < 0.05), indicating a statistically significant association

between “income level” and “awareness level of the Ayushman application.” The likelihood ratio (10.696,  $p = 0.030$ ) supports this finding. The findings demonstrate that awareness of the Ayushman application differs among income groups, with individuals in higher income brackets exhibiting greater awareness. This underscores the necessity for focused awareness initiatives, particularly for individuals in lower-income groups.

The study discusses the success of promotional efforts in sensitizing about the Ayushman Application among its intended users. As per the previous studies by some authors, they emphasized the need for a more tailored type of communication to address diverse groups. However, unlike some other studies that reported significant success in digital marketing, this study found that many potential users were yet to be reached because they were not informed about the application, mainly attributed to limited internet access and lower-level digital literacy in rural areas [19]. The practical implications of the results are that policymakers and healthcare providers should tailor more inclusive outreach strategies to include both traditional and modern media [20]. However, other challenges are found in the study. Technical and social barriers, in terms of unreliable internet connections, resistance to digital tools, and infrastructure-related issues, such as lack of device access barriers, hindered the application's reach.

#### **4. DISCUSSION**

The study's results revealed a strong correlation between demographic variables like as age, education, income, and awareness levels of the Ayushman Application. One of the studies found that the awareness of AB-PMJAY varies between 62% and 68.6% among the targeted populations [8]. The demographic factors including education, income, employment, and age were found to be more correlated with greater levels of awareness. Older subjects who were educated at more advanced levels and had salaried jobs were more aware of AB-PMJAY. Similarly, awareness of social security schemes like Ayushman Bharat was higher among people above 30, males, literate, and middle-income groups [9]. Socioeconomic gradients are also evident, and the marginalized ones show lower levels of awareness [10]. The findings of this study hold substantial importance for medical practitioners, beneficiaries, and policymakers.

Better awareness and utilization by beneficiaries would result in enhanced availability of medical services, ultimately yielding better wellness results and reducing financial barriers to care. However, there were several obstacles based on findings that impeded its adoption. For instance, some main inhibiting factors were low penetration of smartphones or the internet in rural areas and poor digital networks. Despite these, the study identified some areas of improvement in how the Ayushman Application could be promoted. The desire for more inclusive strategies to better promote awareness that overcomes barriers and ensures equal and equitable access to health services was underscored.

#### **5. CONCLUSION**

In conclusion, awareness and utilization of the BIS through the Ayushman Application study underscored the following key findings. There existed an association between the demographic factors of age, education, income, and knowledge of the application, with older adults being more abreast of the system and highly educated and salaried people being the most prevalent group. Despite the implementation of awareness-raising campaigns, significant gaps remain due to limited internet access, poor digital competence, and infrastructure challenges, particularly in rural areas. They're remained gaps due to a lack of internet access, low internet literacy, and infrastructural issues, which were partly evident in the rural areas, as noted by the study. Such findings call for informative, expansive, and tailored outreach to counter such hindrances.

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Sr. No.	Demographic Characteristics	Category	N	%
1.	Gender	Female	94	43.3
		Male	123	56.7
2.	Age	18–25 years	76	35.0
		26–40 years	98	45.2
		Above 40 years	43	19.8
3.	Education Level	Primary	61	28.1
		Secondary	50	23.0
		Higher Secondary	68	31.3
		Graduation	21	9.7
		Post-Graduation	17	7.8
4.	Income Level	Below Rs.10,000	88	40.6
		Rs.10,000 - Rs.30,000	32	14.7
		Above Rs.30,000	97	44.7
5.	Are you aware of the Ayushman application?	Yes	67	30.9
		No	72	33.2
		Somewhat Aware	78	35.9

*Table 1 The Respondents' Demographic Profile*

*Table 2 Chi-Square Tests Table for significant association between “age” and “awareness level of the Ayushman application.”*

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.951 <sup>a</sup>	4	.027
Likelihood Ratio	11.644	4	.020
N of Valid Cases	217		

a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 13.28.

*Table 3 Chi-Square Tests Table for significant association between “education level” and “awareness level of the Ayushman application.”*

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	19.374 <sup>a</sup>	8	.013
Likelihood Ratio	20.169	8	.010
N of Valid Cases	217		
a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 5.25.			

*Table 4 Chi-Square Tests Table for significant association between “income level” and “awareness level*

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.720 <sup>a</sup>	4	.030
Likelihood Ratio	10.696	4	.030
N of Valid Cases	217		
a. 0 cells (0.0%) have an expected count of less than 5. The minimum expected count is 9.88.			

*of the Ayushman application.”*