



A Community Based Study to Assess Out-Of-Pocket Expenditure (OOPE) Among Beneficiary and Non-Beneficiary of Mukhya Mantri Chiranjivi Swasthya Bima Yojna (MMCSBY) In Jaipur (Rajasthan)

1Dr. Vikas Meena, 2Dr. Suresh C. Bairwa, 3Dr Ramesh Chand Bairwa, 4Dr. Pradeep Kaswan, 5Dr. Deepika Kumari, 6Dr. Bhawana Vijayvergia, 7Dr Vaseem Naheed Baig, 8Dr. Lokesh Parashar, 9Dr. Pradeep Kumar, 10Dr. Asha Kumari

^{1,6}Senior Resident, Department of Community Medicine, JLN Medical College, Ajmer, Rajasthan, India

^{2*}Senior Resident, Department of Community Medicine, ESIC Medical College, Alwar, Rajasthan, India

³Junior Resident, Department of Community Medicine, RUHS Medical College, Jaipur, Rajasthan, India

⁴Associate Professor, Department of Community Medicine, ESIC Medical College, Alwar, Rajasthan, India

⁵Assistant Professor, Department of Anaesthesia, Government Medical College, Alwar, Rajasthan, India

⁷Professor, Department of Community Medicine, RUHS Medical College, Jaipur, Rajasthan, India

⁸Assistant Professor, Department of Community Medicine, ESIC Medical College, Alwar, Rajasthan, India

^{9,10}Junior Resident, Department of Community Medicine, S.M.S. Medical College, Jaipur, Rajasthan, India

*Corresponding Author:

Dr. Pradeep Kaswan, Designation: Associate Professor, Department of Community Medicine, ESIC Medical College, Alwar, Rajasthan, India

Address-Flat no 308, Type 5 quarters, ESIC MCH, MIA, Desula, Alwar, PIN-301030

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KEYWORDS

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ABSTRACT:

Background: Out of Pocket Expenditure (OOPE) refers to direct payments for healthcare services. In India, high OOPE burdens low income families, often leading to poverty and debt. To address this, Mukhya Mantri Chiranjeevi Swasthya Bima Yojana (MMCSBY) was launch to reduce OOPE, improve access to affordable care and ensuring quality healthcare for all, regardless of income, however impact of this scheme on OOPE between beneficiaries and non-beneficiaries should be assessed. For this purpose study planned to find out OOPE among beneficiary and non-beneficiary of MMCSBY in Jaipur.

Methodology: A community based, cross sectional study was carried out to assess OOPE among beneficiary and non-beneficiary of MMCSBY between November 2023 to August 2024 at Dadiya and Bhatad village under field practice area of Rural Health Training Center (RHTC) of Medical Institute, Jaipur, Rajasthan. A semi-structured, validated questionnaire used for data collection. Descriptive statistics and Chi-square test used for analysis (p -value <0.05 Statistically Significant).

Results: A total of 458 households, 257 (56.10%) from Dadiya and 201 (43.90%) from village Bhatad were included. About 190 (41.50%) households were belonged to lower middle socio-economic class III. Majority 399 (87%) were beneficiaries and 59 (13%) were non-beneficiaries of MMCSBY. OOPE were observed in 59 (24%) beneficiary and 34 (57.62%) non-beneficiaries, which was statistically significant (p -value <0.05).

Conclusion: Study revealed that OOPE among beneficiaries was considerably less compared



to non-beneficiaries, who incurred more than double expenditure, clearly indicates significant impact on reducing OOPE and highlighting factors which contributing awareness about scheme.

Introduction: Out-of-pocket expenditure (OOPE) refers to direct payments made by households for healthcare, including payments for medicines, services, and medical goods, excluding any re-imburements^[1]. It is a major component of private health expenditure and can impose significant financial strain, especially on low-income households. Spending over 10% of total consumption on health is considered catastrophic and can drive families into poverty. In 2021, OOPE accounted for 17.05% of Current Health Expenditure (CHE) globally, with per capita OOPE at \$215.99^[2,3].

In India, 18% of households faced catastrophic health expenses in 2011–12^[4]. The National Health Policy 2017 aims to reduce such expenses by 25% by 2025, emphasizing affordability and financial risk protection^[5]. From FY14 to FY19, India's OOPE dropped from 64.2% to 48.2% of total health expenditure, while social security spending rose from 6% to 9.6%, reflecting progress toward Universal Health Coverage^[6,7]. A 2017 systematic review in India found that 70% of studies reported no financial protection for the insured, though some state-sponsored schemes showed slight reductions in OOPE^[8].

In Rajasthan (2019–20), OOPE stood at ₹14,476 crore, with government health expenditure at 1.3% of GDP and per capita government health spending at ₹1,662^[9].

The Bhamashah Swasthya Bima Yojana (BSBY), launched in 2015, offered cashless services to BPL and NFSA families. It was merged into the Mukhya Mantri Chiranjeevi Swasthya Bima Yojana (MMCSBY) in 2021, which expanded coverage to ₹5 lakh per family annually across government and empaneled private hospitals, ensuring social security to vulnerable sections of society and help bridge the gap between the rich and the poor people^[10,11]. In 2023, this scheme was consolidated under the Mukhya Mantri Ayushman Arogya (MAA) Yojana^[12].

Despite MMCSBY's broad coverage, its actual impact on OOPE between beneficiaries and non-beneficiaries in rural Rajasthan remains to be evaluated, thus the study

planned to assess OOPE among these groups in Rural Rajasthan.

Methodology:

Study design and setting:

This Community based, cross sectional study was carried out to assess the Out of Pocket Expenditure of households in their health care of beneficiary and non-beneficiary of Mukhya Mantri Chiranjeevi Swasthya Bima Yojana in Rural Rajasthan, India between November 2023 to August 2024.

Ethics Approval: - Data Collection procedure started after taken permission from institutional research - review board and ethics committee, with Chief Medical Health Officer (CMHO) of respective District. This study was performed in lines with the Declaration of Helsinki.

Study type and design: - Community based, descriptive type, cross sectional of study.

Consent to participate declaration: Informed consent was taken from every head of family prior to participate in study.

Study setting: Two villages Dadiya and Bhated under field practice area of Rural Health Training Center (RHTC) of Medical Institute.

Selection Procedure of Village: Field practice area of Rural Health Training Center (RHTC) of Medical Institute, covers 28 villages, out of them two village (Dadiya and Bhated) selected randomly by chit method.

Study population: All households of villages Dadiya and Bhated, who is 18 years or above age and beneficiaries & non-beneficiaries of MMCSBY visited at least 1 OPD or IPD in health care centre in the last 2 years. Not willing to give informed consent, Non-cooperative and had health insurance schemes other than MMCSBY were excluded from study.

Sample size: All households of Village Dadiya (224) and Bhated (188) were included in the study. Based on the inclusion and exclusion criteria for the study out of



501 families 43 families excluded and 458 enrolled in study.

Data extraction and study variables:

Method of data collection

All eligible households fulfilling inclusion criteria were approached by investigator himself with ensure confidentiality/ privacy in presence of other family member. Explained them about nature and purpose of the study in presence of other family member after developing the rapport with the participant. Informed consent was obtained from the beneficiaries and non-beneficiaries. Data was collected by one-on-one interviews after confirming answers. Response of each question were answered by their best of understanding within half an hour.

Study tool

A semi-structured, validated interviewer administered Performa in both English and Hindi language, modified according to Indian population, having two sections was used to collect the information where first part regarding socio-demographic profile included 12 questions and second Health Expenditure Related 18 questions regarding enrolment and health expenditure including hospital visit OPD/IPD/ Follow-up history and awareness of the participants to the MMSCBY scheme.

Statistical analysis: SPSS 25.0 (IBM Corporation) was used for analysis. Questionnaires were gathered, cleaned, manually coded and then input into the computer. Frequency tables, charts, and mean ratings were created using descriptive statistics. The continuous variables were presented as mean \pm standard deviation (SD). Categorical variables were expressed as n (%). Chi-square test used to found association between out of pocket expenditure between beneficiary and non-beneficiary of scheme. $p < 0.05$ consider as significant value.

Results:

A total 458 families selected for study purpose after applying inclusion and exclusion criteria predicated in study, among them 257 (56.10%) were from Dadiya village and 201 (43.90%) from Bhatad village. Table No. 1 Shows that majority of participants 268 (58.51%) were belonging to 36–55 yrs age group, with mean age of 45.71 years. Most heads of families were female 406 (88.64%). Over half 234 (51.10%) belonged to the OBC category. About 98 (21.39%) were illiterate and 151 (32.96%) were Skilled workers by occupation. Socioeconomically 190 (41.5%) were belonged to the middle class (III) as per Modified BG Prasad Scale-October 2023.

S. no	Socio-demographic characteristics of head of family		Frequency (%)
1	Age group (in years)	18-35	122 (26.64%)
		36-55	268 (58.51%)
		>55	68 (14.84%)
2	Sex	Male	52 (11.36%)
		Female	406 (88.64%)
3	Residence	Dadiya	257 (56.10%)
		Bhated	201 (43.90%)
4	Religions	Hindu	458 (100%)
		Muslim	0 (0.00%)
		Others	0 (0.00%)



5	Marital Status	Married	442 (96.50%)
		Un-Married	0 (0.00%)
		Widow/Widower	16 (3.50%)
6	Caste	GEN	115 (25.10%)
		SC	61 (13.30%)
		ST	48 (10.50%)
		OBC	234 (51.10%)
7	Education Status	Professional/ honours education	21 (4.58%)
		Graduate	66 (14.41%)
		Intermediate	42 (9.17%)
		High school certificate	71 (15.50%)
		Middle school certificate	79 (17.24%)
		Primary school certificate	81 (17.68%)
		Illiterate	98 (21.39%)
8	Occupation	Unemployed/House maker	26 (5.67%)
		Self employed	81 (17.68%)
		Unskilled	95 (20.74%)
		Semiskilled	93 (20.30%)
		Skilled	151 (32.96%)
		Professional	12 (2.62%)
9	Socio-economic Status (Modified BG Prasad Scale- October 2023)	Class I	33 (7.20%)
		Class II	109 (23.80%)
		Class III	190 (41.50%)
		Class IV	121 (26.40%)
		Class V	5 (1.10%)

Table 1: Socio-demographic characteristics of the study participants (n=458)



Figure-1 Shows enrollment status of Mukhya Mantri Chiranjivi Swasthya Bima Yojna scheme (MMCSBY). Out of 458 families 399 (87%) were beneficiaries and 59 (13%) were non-beneficiaries of this scheme.

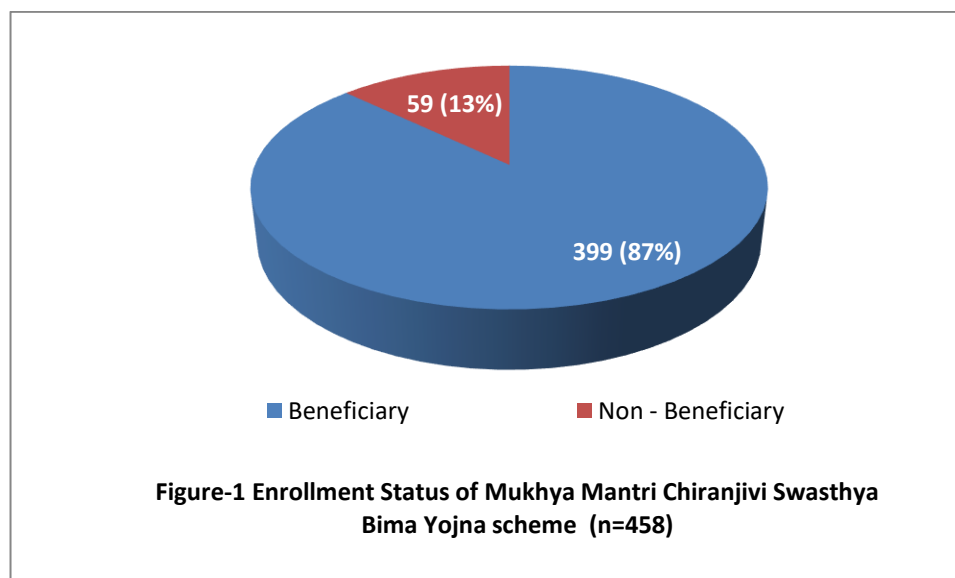


Table No. 2 Showing distribution of participants as per Knowledge about scheme among beneficiaries and Reasons for not enrolled in Scheme among non-beneficiaries. Most of beneficiaries 325 (81.45%) get informed by Doctors or Health providers. Among non-beneficiaries 37 (62.71%) were not aware about scheme.

Questions regarding Enrollment in Scheme		Frequency (%)
How did you come to know about the scheme?	From relatives	1 (0.25%)
	From friends	5 (1.25%)
	From colleagues/employer	64 (16.04%)
	From television or newspaper	4 (1.00%)
	From my doctor/health provider	325 (81.45%)
Reasons behind not enrolled in Scheme?	I am not aware about the scheme	37 (62.71%)
	Didn't know where to enroll	4 (6.77%)
	Place to enroll was far from home	2 (3.38%)
	Heard that the enrolment procedures were difficult	6 (10.16%)
	My friends/relatives told me not to join	0 (0.00%)
	Didn't feel it would be useful	10 (17%)

Table No. 2 Showing distribution of participants as per Knowledge/Reason for Registration in Scheme

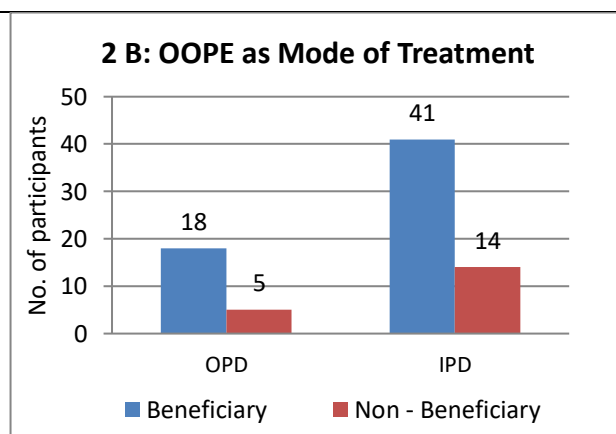
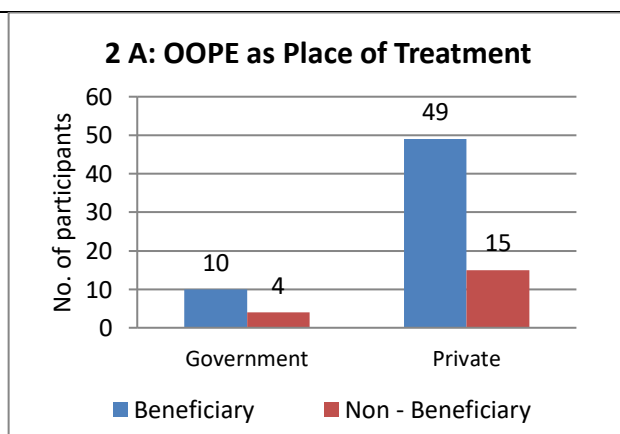
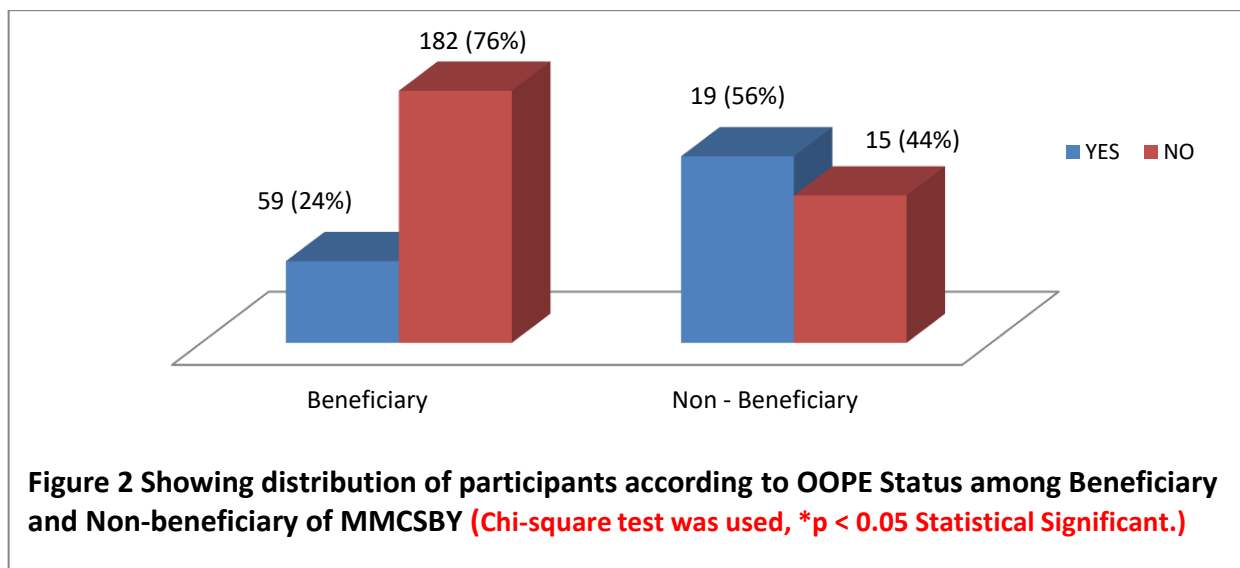


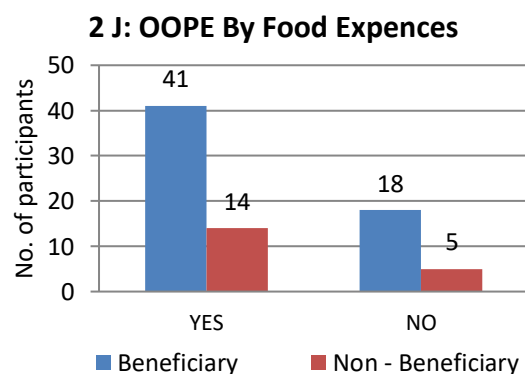
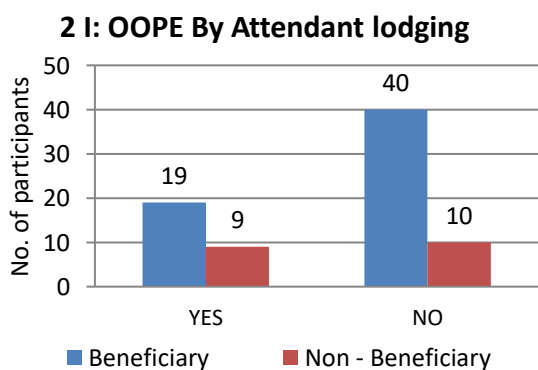
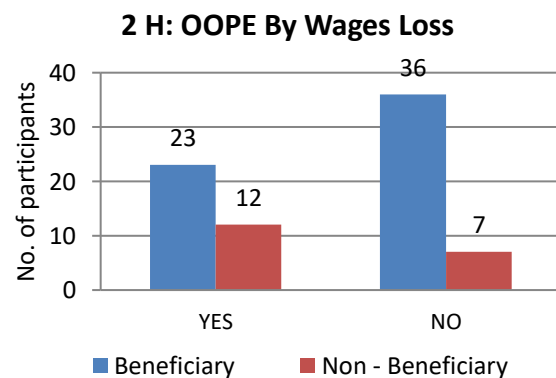
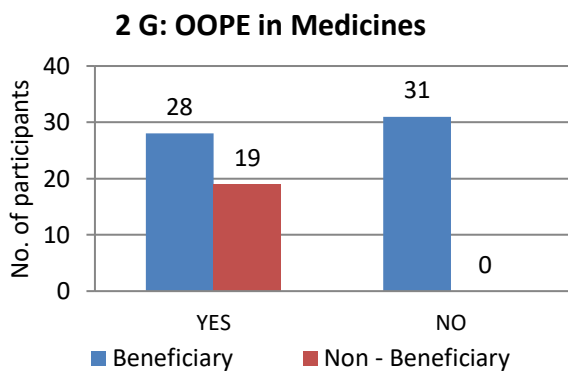
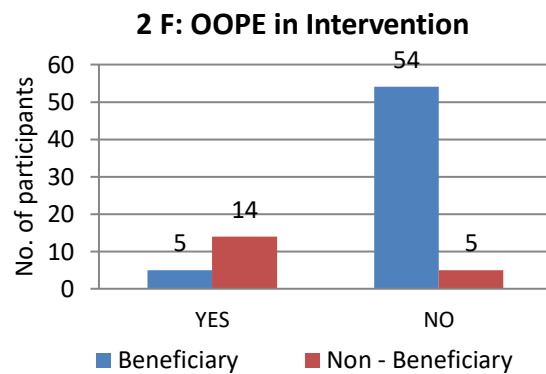
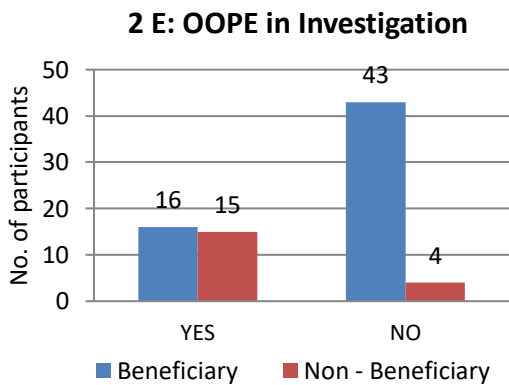
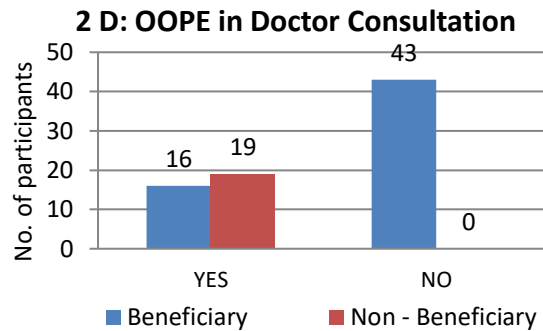
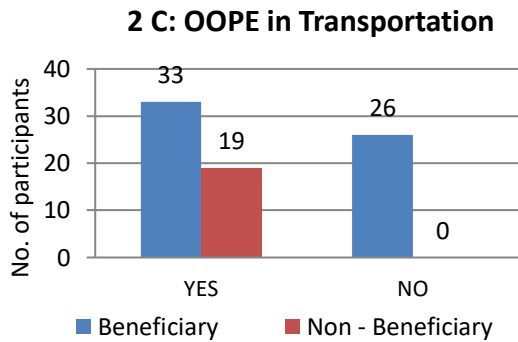
Table No. 3 Shows that 241 (60.40%) and 34 (57.62%) families among beneficiaries and non-beneficiaries respectively were had treatment history within 2 yrs.

Treatment Status of Family members within 2 Yrs	YES	NO	Total
Beneficiary	241 (60.40%)	158 (39.59%)	399 (100%)
Non - Beneficiary	34 (57.62%)	25 (42.38%)	59 (100%)

Table No. 3 distribution of participants as per treatment history within 2 Yrs

Figure 2 Shows that out of 241 beneficiary 59 (24%) and among 59 non-beneficiary 34 (57.62%) were had OOPE, Chi-square tests were applied to assess the relationship between OOPE among beneficiary and non-beneficiary of MMCSBY who undergo treatment within 2yrs, shows association which was statistically significant (p-value <0.05). Figure 2A to 2 J showing OOPE in different head of expenditures among beneficiaries and non-beneficiaries.







Discussion: The findings of this study provide valuable insights into the impact of Mukhya Mantri Chiranjeevi Swasthya Bima Yojana on out of pocket expenditure (OOPE) of households in their health care of beneficiary and non-beneficiary of rural Rajasthan. A total of 458 families were included, with 90% (297) being married, and a significant proportion of the women 60% (198) being illiterate.

The present study found that 24.48% of MMCSBY beneficiaries incurred out-of-pocket expenditure (OOPE) compared to 55.88% of non-beneficiaries, indicating significant financial protection provided by the scheme, these finding is consistent with the Rashtriya Swasthya Bima Yojana (RSBY), where Sinha et al.^[13] reported that about 30% of insured individuals faced OOPE, compared to nearly 50% among the uninsured. Similarly, Selvaraj et al.^[14] assessed the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY) and found that insured patients incurred significantly fewer OOPE related to hospitalization and medical procedures than uninsured patients. This aligns with our MMCSBY findings, where beneficiaries incurred costs for interventions or procedures at a much lower rate (8.50%) compared to non-beneficiaries (73.68%), highlighting the scheme's role in reducing financial burden during hospital stays. Study by Ranganathan et al.^[15] on Karnataka Vajpayee Arogyashree scheme also demonstrated reduced OOPE among beneficiaries, with about 30% of enrolled individuals incurring OOPE versus a higher percentage among non-beneficiaries. This pattern is similar to our findings, where beneficiaries reported fewer inpatient expenses and lower procedural charges. Beneficiaries preferred private hospitals (52.3%) compared to government (47.7%), while non-beneficiaries reversed this 55.9% in government, 44.1% in private, similar findings in post-insurance enrollment were observed in Bowser D et al.^[16], where insured individuals more often chose private facilities.

Despite these reductions, present and other study as Prinja et al.^[17], reveal that a considerable number of insured patients still face OOPE, especially for medicines (47.45% of beneficiaries vs. 100% of non-beneficiaries), transportation costs (52.28% beneficiaries vs. 100% non-beneficiaries) and doctor consultation fees (27.12% beneficiaries vs. 100% non-beneficiaries). This points to gaps in scheme coverage or challenges in

scheme implementation that need to be addressed to achieve comprehensive financial protection.

Furthermore, socio-demographic factors like education and socioeconomic status impact OOPE patterns. Patel et al.^[18] showed that marginalized groups enrolled in schemes such as MMCSBY and RSBY benefit from financial protection but still face hidden costs. Our study's findings, where a majority of heads of families belonged to the middle and lower-middle socioeconomic classes, further support the need to address these persistent economic barriers.

Conclusion: This community based study revealed that MMCSBY scheme had significant impact on reducing OOPE among beneficiary of scheme compared to non-beneficiaries in Rajasthan and consistent with findings from other national publicly funded health insurance programs like RSBY and PM-JAY scheme. These programs effectively reduce OOPE, especially related to inpatient care and medical procedures, but still face challenges related to residual expenses such as medicines, transportation, and outpatient consultation fees. Study also highlighting factors which contributing awareness about scheme and OOPE among beneficiaries and non-beneficiaries. Addressing these gaps through enhanced policy measures and improved implementation could strengthen financial risk protection for vulnerable populations.

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