

**STUDY ON OUT-OF-POCKET EXPENDITURE IN PATIENTS
ADMITTED IN CARDIOLOGY DEPARTMENT UNDER PMJAY IN A
TERTIARY CARE HOSPITAL IN UTTARAKHAND**

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of
Master of Business Administration (MBA) in Hospital and Health
Management

by

Dr. Himadri Mamgain

Under The Supervision and Guidance Of

Dr. Dhirendra Kumar

Declaration

I hereby declare that this dissertation titled ‘Study on Out-Of-Pocket Expenditure In Patients Admitted In Cardiology Department Under PMJAY in a Tertiary Care Hospital in Uttarakhand’ is the bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



Dr Himadri Mamgain

Date- 18.05.2023

ACKNOWLEDGEMENT

The process of bringing this thesis to completion has been an enlightening journey and I am profoundly grateful to everyone who has been part of it. It would not have been possible without the guidance, discourse, and encouragement that I have received in abundance.

It is my proud privilege to express my deep sense of gratitude and indebtedness to my guide and mentor, Dr. Dharendra Kumar, Professor, IIHMR University, Jaipur, for his utmost help and guidance throughout my study.

I would like to thank my mentor Brigadier (Dr) K Venkatnarayan, Officer on Special Duty, and Dr. K. Madan Gopal, Senior Consultant, Health Vertical, NITI Aayog, for guiding me throughout my study period.

I would also like to thank my team members Dr. Omkarnath, Dr. Nakul and Ms. Oshia Garg of Health Vertical at NITI Aayog.

I would like to acknowledge and sincerely thank, Ayushman Mitras, and the entire staff of AIIMS, Rishikesh, who have helped me a lot in my data collection.

My family and friends have always been the pillars of my strength, and I express my appreciation for the encouragement, love, and moral support from my parents, who have been blissful in times of stress and a constant source of inspiration.

Finally, I express my most profound appreciation for the cornerstone of this thesis, all the patients who have been part of the study, without whose cooperation, this study would have been impossible.

Sincerely,

Dr. Himadri Mamgain

MBA Hospital and Health Management



Shoyabahmed Kalal,
Deputy Secretary
Tel No. 011-23096602
Email: s.kalal@nic.in

भारत सरकार
नीति आयोग, संसद मार्ग,
नई दिल्ली-110 001
Government of India
NATIONAL INSTITUTION FOR TRANSFORMING INDIA
NITI Aayog, Parliament Street,
New Delhi-110 001

No. 15(5)/2016-H&FW

Date: 04th May, 2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Dr. Himadri Mamgain, D/o Shri. Het Ram Mamgain, pursuing MBA in Hospital and Health Management from IIHMR University, Jaipur, has successfully completed her internship on ***“Injury Prevention and Safety Promotion”*** under the mentorship of Brdg. (Dr) K Venkatnarayan, OSD Health & Family Welfare (H&FW) Vertical, NITI Aayog, Government of India from **20.02.2023 to 20.04.2023**.

2. During the tenure, she has shown keenness and interest in the work. She was punctual and hardworking.
3. I wish her success in future career and life.


(Shoyabahmed Kalal)

शोयब अहमद कलाल/Shoyabahmed Kalal
उप सचिव (स्वास्थ्य)/Deputy Secretary (Health)
नीति आयोग/NITI Aayog
भारत सरकार/Government of India
संसद मार्ग/Parliament Street
नई दिल्ली-110001/New Delhi-110001





THROUGH HUMANITY TO PEACE

Uttarakhand State Branch

Constituted Under Act. XV of 1920

President

HONOURABLE GOVERNOR OF UTTARAKHAND

TO WHOMSOEVER IT MAY CONCERN

First Aid Training Program and Disaster Management

This is to certify that **Dr. Himadri Mamgain** pursuing MBA in Health and Hospital Management from IIHMR University, Jaipur, has successfully completed her internship under my guidance on Disaster Management from **21.04.2023 to 21.05.2023**.

During the internship, Dr. Himadri Mamgain demonstrated exceptional dedication, enthusiasm, and a strong willingness to learn. She actively participated in various tasks and projects, contributing valuable insights and ideas to the team.

We extend our best wishes for her continued success.

Date: 25.05.2023

Dr. Gaurav Joshi

Vice Chairman

Red Cross Uttarakhand

Danda Lakhaund Near IT Park, Sahastradhara Road, P.O. Gujrarha, Dehradun 248 001

Ph.: 0135-2608956, E-mail : ircsuk2012@gmail.com | Website : www.redcrossuttarakhand.org

CERTIFICATE

This is to certify that dissertation titled 'Out of Pocket Expenditure' incurred among the Cardiology patients admitted under PMJAY in a tertiary care hospital in Uttarakhand' is a record of the research work undertaken by (Name of Student) in partial fulfillment of the requirements for the award of the degree of MBA (Hospital and Health Management)/MBA (Pharmaceutical Management)/MBA (Development Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Dr. Dhirendra Kumar
Faculty Guide
IIHMR University, Jaipur
Date

Dr(Col) Mahender Kumar
School Dean
IIHMR University, Jaipur
Date

Abstract

Study Objective

To evaluate the “out-of-pocket costs borne by cardiology patients who were admitted under PMJAY to a tertiary care facility in Uttarakhand.”

Methodology

The present descriptive cross-sectional study, titled "Study on Out-of-Pocket Expenditure in Patients admitted in Cardiology Department Under PMJAY in a Tertiary Care Hospital in Uttarakhand", was conducted in AIIMS, Rishikesh. The study was conducted among the patients admitted through the PMJAY programme, to the hospital. All the patients admitted under the scheme were included during the collection period between February 2023 to May 2023 to meet the requirements of a sample size of 248. The patients were interviewed using a structured questionnaire into 8 sections i.e., Socio-demographic profile of the study population, Patient, Household characteristics, Awareness of the PMJAY scheme, Utilization of the PMJAY scheme, Details of current hospitalization, OOPE for the last one year for treating the particular illness, Mean OOPE per visit in the last year v/s OOPE at the current health facility and the Patient satisfaction with the scheme. The collected data was tabulated and analysed using software like excel and the data was organized and presented in the form of frequency tables and graphs for better visualization and understanding.

Key result and Conclusion

- According to the fact that the majority of recipients (n=80) are between the ages of 45 and 59, the programme predominantly serves the middle-aged population. Additionally, 27% of claimants are between the ages of 30 and 44.
- The study states that about 63% of the beneficiaries were males and 37% of them were female. This shows that males are utilizing of the scheme more than females.
- 68.5% of the respondents were from rural areas and 31.5% were from Urban areas.
- The majority of respondents (43.1%) had a family size of 4 members in their families, followed by 34% of the respondents who had a family size of 5 members in their families. It was found that comparatively, the family size in rural areas is slightly higher than the family size in urban areas.

Key Words:

Out-of-Pocket Expenditure, PMJAY, Empanelled, Universe Health Coverage, Ayushman Bharat

TABLE OF CONTENTS

LIST OF TABLES	ix
LIST OF FIGURES.....	xi
ABBREVIATIONS.....	xii
 CHAPTER-1	
INTRODUCTION.....	1
 CHAPTER-2	
REVIEW OF LITERATURE.....	7
 CHAPTER-3	
RESEARCH METHODOLOGY.....	12
 CHAPTER-4	
STUDY FINDINGS.....	15
 CHAPTER-5	
DISCUSSION.....	42
 CHAPTER-6	
CONCLUSION.....	47
 CHAPTER-7	
RECOMMENDATIONS.....	51
 CHAPTER-8	
REFERENCES	54
 ANNEXURE-1	
STUDY TOOLS	i

LIST OF TABLES

Table No.	Title	Page No.
1.1	Percentage breakdown of people by health insurance type.....	2
1.2	Lists the PMJAY scheme's eligible participants according to SECC 2011.....	5
4.1	Marital status of the study population	19
4.2	History of Chronic illnesses in the study population	19
4.3	Education status of the study population	19
4.4	Average Family Size of the study population	20
4.5	Per capita income of each member of the family per month	22
4.6	Awareness of the financial coverage per family per year	22
4.7	Awareness of the eligible members covered per family under the scheme	23
4.8	Awareness of the type of hospitals providing PMJAY scheme benefits	23
4.9	Awareness of service coverage under the PMJAY scheme	24
4.10	Closest empanelment facility	24
4.11	Information provided to the patient about the cost involved in treating in advance and about the money left in the smartcard	26
4.12	Duration of hospitalization	26
4.13	Amount spent on consultation fees for doctors and bed charges	27
4.14	Amount spent on Diagnostic charges	27
4.15	Amount spent to purchase Medicines	28
4.16	Number of attendants accompanying per patient	28
4.17	Amount spent on Food during the hospital stay	29
4.18	Amount spent on accommodation for seeking treatment	29
4.19	Amount spent on transport for seeking treatment	30
4.20	Daily wage loss during treatment	30
4.21	Number of days of wage lost for seeking the treatment	31
4.22	Doctor's consultation fee	33

4.23	Bed charges	33
4.24	Diagnostic charges	34
4.25	Medicine Charges	34
4.26	Amount spent on Food during the hospital stay for both patient & attendant	35
4.27	Amount spent on accommodation for seeking treatment for both patient & attendant	35
4.28	Amount spent on transport for seeking treatment for both patient & attendant ..	36
4.29	Daily wage loss during treatment	36
4.30	Patient satisfaction regarding the accessibility of the hospital	37
4.31	Patient satisfaction regarding the admission procedure under the scheme.....	40
4.32	Patient satisfaction regarding the Treatment & services provided under the scheme	40
4.33	The average time taken for discharge after the discharge advice given by the consultants	41
4.34	Role of Ayushman Mitra in the discharge process	41

LIST OF FIGURES

Figure 4.1	Age group of Beneficiaries utilizing the PMJAY scheme	17
Figure 4.2	Sex of beneficiaries utilizing the PMJAY scheme.....	18
Figure 4.3	State-wise distribution of study population	18
Figure 4.4	Type of house in which the patient is living	21
Figure 4.5	Monthly income of the family	21
Figure 4.6	Reasons for choosing a PMJAY non-empaneled hospital	25
Figure 4.7	Source of income to meet the expenses	32
Figure 4.8	Number of visits in the last 1 year (IP)	31
Figure 4.9	Source of funds for covering expenses income.....	38
Figure 4.10	Comparison between Mean Direct OOPE at the current hospital and Mean OOPE per visit in the last year	38
Figure 4.11	Mean Indirect OOPE at current hospital vs Mean OOPE per visit in the one year	39
Figure 4.12	Overall satisfaction with the PMJAY scheme	42

ABBREVIATIONS

ANM	Auxiliary nurse midwife
ASD	Atrial Septal Defect
CES	Consumer Expenditure survey
CHE	Catastrophic Health Expenditure
CT	Computed Tomography scan
DDR	Dual-chamber rate-modulated pacemaker
EHCP	Empaneled Health Care Provider
GDP	Gross domestic product
GFHI	Government Funded Health Insurance
HHs	House Hold size
HBP	Health Benefit Package
HLEG	High-Level Expert Group
HWC	Health and wellness center
IPD	In Patient Department
ISA	Implementation Support Agency
KM	Kilometers
LMIC	Low- and Middle-Income Countries
MRI	Magnetic resonance imaging scan
NCD	Non-Communicable Diseases
NCR	National Capital Region
NHA	National Health Authority
NHPS	National Health Protection Scheme
NSS	National Sample Survey
OOPE	Out of Pocket expenditure

OPD	Out Patient Department
OT	Operation Theatre
PDA	Patent Ductus Arteriosus
PFHI	Publicly Funded Health Insurance
PPP	Purchasing Power Parity
PSU	Public Sector Undertaking
PTCA	Percutaneous Transluminal Coronary Angioplasty
RAS	Rajiv Aarogya Sri Health insurance Scheme
RGJAY	Rajiv Gandhi Jeevandayee Arogya Yojana
RSBY	Rashtriya Swasthya Bima Yojana
SDG	Sustainable Development Goal
SECC	Socio-Economic Caste Census
SHA	State Health Agency
THE	Total Health Expenditure
UHC	Universal Health Coverage
UT	Union Territory
WHO	World Health Organization

CHAPTER-1

INTRODUCTION

“Achieving Universal Health Coverage(UHC) is the primary policy objective in the global health sector”¹. The WHO defines universal health coverage (UHC) as giving all people access to necessary health services (Prevention, Promotion, Treatment & Palliation) of adequate quality to be effective and guaranteeing that using these services won't put the user at risk of financial hardship. “Health care expenses should ideally be covered by prepayment mechanisms or tax income rather than being paid out of pocket (OOP) by users at the time they get services.”². Contrarily, the cost of healthcare causes roughly 60 million Indians to live in poverty each year. Despite UHC being accepted at the governmental level in India, households there still bear the burden of more than 60% of healthcare costs.³. The findings from the most recent National Sample Survey (NSS-75th round) report show that only a small portion of the population has access to health insurance. Only 19.1% of people in urban areas and 14.1% of people in rural areas are said to have health insurance⁴.

Table 1.1 Percentage breakdown of people by health insurance type⁴

Sector	% of the population not covered	% Of Population covered By					
		Government-sponsored insurance schemes	Government/PSU as an employer	Employer-supported health protection (other than PSU)	Arranged by households with insurance companies	Others	All
Rural	85.9%	12.9%	0.6%	0.3%	0.2%	0.1%	100.0
Urban	80.9%	8.9%	3.3%	2.9%	3.8%	0.2%	100.0

On the other hand, almost 60 million Indians live in poverty each year due to the high expense of healthcare. Even though UHC is supported by the government in India, more than 60% of healthcare expenses are still borne by households.⁵⁶⁷.

However, it is clear from the literature that all of these programmes helped to increase the use of hospital services but were ineffectual in lessening the financial burden on impoverished households.

Out of Pocket Expenditure

WHO defined out-of-pocket expenditure as direct payments by individuals to health care providers at the time of availing the services. Access to healthcare services in India is severely hampered by the lack of prepayments for health services, such as taxes or special insurance fees or contributions. People who need healthcare are heavily burdened by this lack of financial security because they are forced to pay for all necessary services out of pocket. This condition adds to the general financial hardship faced by those throughout the nation who need medical care.⁹. The causes for the huge OOPE could be a weak public health care system and consequent dependence on the private sector, lack of basic facilities including medical staff, diagnostic tools, and other medical equipment, and lack of awareness about medical insurance and its low penetration. OOPE can be further classified into various groups like

expenditure on medicines, expenditure on diagnostic services, medical equipment, and prosthesis. It can be considered an indicator of financial protection.

When household health spending surpasses 10% of household consumption spending, the OOP payment for health services is referred to as catastrophic health expenditure (CHE).¹⁴ Impoverishment is the state in which a household falls to or stays below the poverty level as a result of health expenses. Bharat Ayushman Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY) is a large-scale programme launched by the Indian government with the goal of protecting the population's financial health and lowering OOPE incurred by households.

Ayushman Bharat Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY)

The National Health Policy 2017 guidelines to attain Universal Health Coverage led to AB-PMJAY, the largest publicly funded social health insurance programme in the world. It debuted on September 23, 2018. In an effort to transition from a sectoral and segmented approach to the delivery of health services to a holistic need-based health care programme, Ayushman Bharat was created. The program's goal is to implement novel strategies to completely enhance the healthcare system at the primary, secondary, and tertiary levels, focusing on ambulatory care, promotion, and prevention. The continuum of care strategy used by Ayushman Bharat consists of two related parts:

- i. Health and Wellness Centres (HWCs)
- ii. Pradhan Mantri Jan Arogya Yojana (PM-JAY)

The largest health insurance programme in the world, Ayushman Bharat, or PM-JAY, aims to cover secondary and tertiary care hospitalisation for more than 10.74 crore economically disadvantaged and vulnerable families, or over 50 crore beneficiaries. The poorest 40 percent of Indians come from these families. These households are eligible for a health benefit under PM-JAY of Rs. 5 lakhs annually, which is specifically for hospitalisation for secondary and tertiary treatment. The socioeconomic caste census of 2011 (SECC 2011) occupational and deprivation categories are used to determine which households are eligible, guaranteeing the inclusion of both rural and urban homes. The program's goal is to provide basic healthcare services to society's most economically and socially vulnerable groups. Prior to being renamed, PM-JAY was formerly known as the National Health Protection Scheme (NHPS). Rashtriya Swasthya Bima Yojana (RSBY), which had been introduced in 2008 and had been in existence till 2018, was succeeded by it. The scheme is now being implemented in all the states & Union territories in India except in West Bengal, Odisha, and Delhi. The Sustainable Development Goal (SDG) 3.8, which guarantees financial security against catastrophic medical expenses and access to cheap, high-quality healthcare for everybody, is what PMJAY aspires to realise. The scheme was recommended mainly based on the five (5) major challenges being faced by Indians which include Poverty, Triple burden of diseases, Lack of affordable health care, Increased out-of-pocket expenditure, and no portability of state health schemes. It seeks to provide cashless and paperless health coverage up to 5 lacs per family per year with no limit on family size, including 3 days of pre-hospitalization and 15 days of

post-hospitalization charges. It is portable across the country and covers more than 1592 procedures.

The Central and State Governments have both implemented a number of publicly sponsored health insurance programmes in an effort to improve demand-side financing.

The second part involved putting the Pradhan Mantri-Jan Arogya Yojana (PM-JAY) into action. This programme aims to create a demand-driven healthcare system that can meet eligible beneficiary families' urgent hospitalisation needs without requiring cash payments, protecting them from severe financial hardship. PM-JAY hopes to increase the long-term accessibility of its services by providing incentives. It is projected that the private sector would strengthen its presence in underserved regions in Tier-2 and Tier-3 cities as demand rises. PM-JAY would encourage public hospitals to give poor patients priority and will provide them ways to make more money so they can improve their infrastructure and close their seven service gaps. The current RSBY has been absorbed by PM-JAY, which also collaborates with a number of State Government-funded health insurance/assurance programmes.

Due to its magnitude, PM-JAY is the largest health insurance and assurance scheme in the world, covering the medical expenses of an amazing 50 billion Indians, who make up 40% of the world's poorest population and 10.74 billion impoverished families. It is fully funded by the government and provides protection for a range of secondary and tertiary care hospitalisations. In order to lower catastrophic out-of-pocket medical expenditures, PM-JAY's main goal is to increase the poor population's access to high-quality healthcare.

Coverage under PMJAY

As they cannot pay any premium and are the most difficult to contact, including the poorest and most vulnerable population in the health insurance scheme is frequently the most difficult task. They frequently lack literacy as well, thus raising awareness of them requires a totally different strategy. India is not an exception to this rule; it holds true for the majority of Lower and Middle-Income Countries (LMIC).

The main goals of PM-JAY's launch were to provide complete coverage for catastrophic illnesses, lower catastrophic out-of-pocket costs, increase access to hospital treatment, lower unmet needs, and harmonise different health insurance programmes across States. Along with offering nationwide mobility of treatment, PM-JAY is also establishing national standards for a health assurance system.

Table 1.2 Lists the PMJAY scheme's eligible participants according to SECC 2011.

Rural Beneficiaries	Urban Beneficiaries
The PM-JAY system included automatic inclusion requirements such destitute/living on alms, manual scavenger households, primitive tribal groupings, and lawfully released bonded labour in addition to six deprivation criteria (D1 to D5 and D7) for rural areas. These requirements comprise the following: • D1 Families residing in a house with only one room with kucha walls and roof. • D2 Families with no adults present between the ages of 16 and 59 fall under category. • D3: Families with no adult males between the ages of 16 and 59. • D4: Families without any adults that are able-bodied and have a disabled member. • SC/ST (Scheduled Caste/Scheduled Tribe) families are in category D5. • D7: Landless households with manual labour as their main source of income.	Workers in the 11 occupational types listed below are eligible to participate in the PM-JAY initiative in urban areas: • Beggars, cobblers, hawkers, and other service providers who operate on the streets. • Domestic employees. • Ragpickers. • Mali (gardener), which includes cleaners, masons, plumbers, labourers, painters, welders, security officers, coolies, and other head-load employees. • Workers in the transportation industry, such as drivers, conductors, assistants to drivers and conductors, cart pullers and rickshaw pullers. • Employees who work from home, such as artisans, seamstresses, store employees, assistants, peons in small businesses, helpers, and delivery staff. • Chowkidars, or watchmen, and washer-men, who work in the laundry. • Waiters, attendants, and assistants. • Assemblers, mechanics, electricians, and repair personnel. • Any other qualified professions that meet the requirements of the programme.

RATIONALE

Any social health insurance program's main goal is to keep families from experiencing extreme financial hardship due to unaffordable medical expenses. Despite providing impoverished individuals with health funding choices, it has been shown in numerous studies that relatively little of these social welfare programmes are actually used. Additionally, it's critical to evaluate the beneficiaries' benefits in terms of how well they have been shielded from catastrophic medical costs while also being there for them in their time of need.

At the moment, PM-JAY offers roughly 56 cardiac therapy packages with 156 procedures from the cardiology and cardiothoracic and vascular surgery (CTVS) specialties. It pays for all costs, including follow-up appointments, medications, implants, and tests. With no limitations on family size, age, or gender, it also covers the costs associated with 3 pre-hospitalization days and 15 post-hospitalization days. PMJAY recently achieved a great milestone by completing 3 crore treatments for the beneficiaries¹¹. There is a need to research various components of the scheme including its structure, functioning, implementation, and OOPE incurred among the patients admitted to the tertiary care hospital under the scheme.

In this context, it will be a great opportunity to assess whether the scheme is successful in decreasing the OOPE among the patients. From the recent National Health Authority (NHA) data, high volume claims are seen from the department of Cardiology. Hence, I have conducted my study in the department of Cardiology at a tertiary care hospital in Uttarakhand. The present study came out with recommendations about the implementation and the measures to possibly decrease OOPE among the patients admitted to the tertiary care hospital under the scheme.

OBJECTIVES

General Objective-

“To evaluate the out-of-pocket costs borne by cardiology patients who were admitted under PMJAY to a tertiary care facility in Uttarakhand.”

Specific objectives-

1. To evaluate the direct and indirect medical costs spent by patients who were admitted to the cardiology unit of a tertiary care facility in Uttarakhand under PMJAY.
2. To compare the costs that patients incurred before and after receiving preauthorization under the programme.

CHAPTER-2

REVIEW OF LITERATURE

Many publicly funded health insurance schemes were implemented by both central government and respective state governments in India and many studies were conducted to assess the implementation and functioning of these schemes. Some of the studies compared the schemes in India with insurance schemes in other countries. Studies have also shown the awareness level of the community about these existing health insurance schemes in India. Most of the studies revealed that OOP among the households is still higher and its financial burden on them has a great impact.

The Review of Literature is discussed in the following headings:

- A. International experience with health insurance schemes
- B. Health insurance programmes in India financed by the government.
- C. Awareness, utilization, and coverage of Public Funded Health Insurance schemes
- D. OOP in Public Funded Health Insurance schemes

International experience with health insurance schemes

In order to evaluate the effects of out-of-pocket (OOP) medical expenses on households, including the measurement of catastrophic costs and poverty as a result of such spending, Araujo et al. (2021) undertook a study in Brazil. They examined information on household health spending from the most recent 2020 Brazilian consumption survey. According to the research, over one-third of Brazilian households spend more than 10% of their income on healthcare, which places a heavy financial strain on them. Additionally, a bigger proportion of poor households in Brazil struggle financially as a result of healthcare expenses. The study identified medication as the primary driver of OOP health spending. Brazil stands out as one of the early adopters of universal health coverage (UHC) among low- and middle-income countries, with the establishment of the Unified Health System in the late 1980s.¹³

Ataguba (2021) assessed the effect that paying for health care had on South Africa's income redistributive effect (RE). Although payments for private health insurance may lessen income disparity, enrollees are a tiny minority, primarily the wealthy. Additionally, with the vertical impact dominant, overall health spending and taxation both significantly reduce income disparity. Taxes that help to lessen economic inequality have the potential to support fair health financing in South Africa.

In a 2016 study, Baird K. compared the proportion of Americans who spend a lot of OOP on healthcare to the proportions in eight other developed nations (Poland, Israel, Switzerland, Russia, France, Slovenia, and Australia).²⁷ Japan using the Luxembourg Income Study found that in five nations, more than 10 percent of individuals lived in households with high medical spending (United States, Poland, Israel, Switzerland, and Russia), and only France (2.9 percent) did less than 5 percent of the population incur high OOP expenses²⁷. It also found that poor and elderly Americans spend a lot of money, just like their counterparts in other countries.

Health insurance programmes in India financed by the government

Reshmi B et al (2021) indicated that personal experiences, awareness, or word-of-mouth marketing are the primary reasons why people choose to get health insurance.²⁸ People are better informed about health insurance programmes thanks in large part to mass media like newspapers, radio, and television. Friends, neighbourhood gatherings, school events, and health professionals can all have an impact on people's understanding of health insurance.

Khan A (2021) conducted a survey among 160 patients registered at the Ayushman Bharat cell of a tertiary care hospital in Srinagar and discovered that patients using the PMJAY scheme had distress financing and catastrophic health cost reduced to zero.²⁹ It was also reported that prior research done at the same facility before the introduction of ABPMJAY revealed a prevalence of distress financing of over 70% among cancer and CKD patients. According to this report, the occurrence of catastrophic health care expenditures had once again reduced to zero, therefore the patient was not responsible for covering the hospital bills.

Joseph J (2021) conducted a secondary analysis of cross-sectional administrative programme data for 30 Indian states that was made available to the public on the PM-JAY portal. Out of all the facilities empaneled (N = 20,257) under the system in 2020, they discovered that 56% were in the public sector, 40% were privately owned for-profit facilities, and 4% were privately owned not-for-profit enterprises.³⁰ According to the report, more than 60% of the PMJAY facilities were located in five states: Rajasthan, 14.4%; Tamil Nadu, 11.5%; Gujarat, 13.3%; and Uttar Pradesh, 14.9%. 40 percent of the facilities had two to five specialisations, while 14 percent had 21 to 24. The study found that most of the hospitals that are part of the scheme are in states that have already tried to set up public health insurance programs.

Awareness, utilization, and coverage of Public Funded Health Insurance schemes

By Naib et al. (2021), a study was carried out to examine the trends in cardiac care utilisation under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana in India. According to the data, cardiac claims make up 26% of overall claim value and 5% of total claim volume. The highest utilisation in terms of volume and cost is for PTCA-single stent (medicated, including diagnostic angiography) packages.⁴¹ Males use cardiac care at a higher percentage (70%) than females, which is notable. Over 79% of all hospital utilisation for cardiac care is in private institutions. Gujarat has the highest utilisation of cardiac packages and Tamil Nadu has the most facilities accredited for cardiac treatment out of all the States and UTs.

A study to assess the performance of PMJAY among the households in the state of Chattisgarh was conducted by Garg S et al., (2020)³⁵. The Pradhan Mantri Jan Arogya Yojana (PMJAY) and prior Publicly Funded Health Insurance (PFHI) programmes in India were both examined using three repeated cross-sections. From the National Sample Survey (NSS) health rounds conducted in 2004 and 2014, while the PFHI programme was in operation, two cross-sections were created. The third cross-section focused on the first year of PMJAY implementation and used primary data that was gathered at the end of 2019. The study's multivariate analysis revealed that while PMJAY had better vertical coverage than earlier PFHI programmes, it had

not yet made any appreciable strides towards improving access to healthcare or offering financial security for the state.³⁵

Harshad Thakur (2016)⁴³ did a study on RSBY with the goal of evaluating the current state of RSBY in Maharashtra at each stage of awareness, enrollment, and utilisation. Additionally, the social, political, economic, and cultural (SPEC) elements that contributed to the better or worse proportions, particularly in terms of programme awareness, were examined across urban and rural locations. The study used a mixed methods approach and a systematic multistage sample methodology, spanning 6000 Households (HHs) throughout 22 districts in both rural and urban locations. Regarding this study Only 29.7% of the 6000 HHs were aware of the programme, and only 21.6% signed up between 2010 and 2012. The percentage of HHs who said they were currently enrolled in RSBY was just 11.3%. Only 16 (0.3%) of the 1886 (33.1%) HHs who reported having been hospitalised at least once in the previous year were able to make use of the benefits while they were there.

OOPE in Public Funded Health Insurance schemes

Data from a population-based health consumption survey carried out by the National Sample Survey Organisation in 2018 were used in a cross-sectional analysis by Ambade M. et al.⁴³ in 2022. The study's goal was to determine the relative effects of various healthcare costs, such as prescription medications, diagnostic tests, doctor and surgeon fees, expenditures for other medical services, and non-medical health-related services like travel, lodging, and meals. In order to evaluate the relative contributions of these factors to healthcare spending, the analysis took into account patient sociodemographic characteristics, regional considerations, and the kind of sickness. The study indicated that non-medical costs were considerable, that socioeconomic level affected how much of the total health care OOPE came from doctor consultation and diagnostic test fees, and that inpatient services had lower annual cost as a percentage of income than outpatient services.⁴³

A comprehensive review was carried out by Reshmi B et al in 2021 to determine the effects of publicly funded health insurance systems in India on health care utilisation and risk mitigation. The study on the impact of PFHI on financial risk protection claims there is insufficient proof to conclude that the programmes had any influence on financial protection. Influence of PFHIs like Rashtriya Swasthy Pradhan Mantri, Vajpayee Arogyashree, and the Bima Yojana Healthcare services were used and accessed more frequently thanks to the Jan Arogya Yojana. The study found that various national and state PFHIs improved the beneficiaries' use of healthcare services, but there was inconclusive evidence that the beneficiaries' financial risk protection had decreased.⁴⁴

Dewesh et al., (2019)⁴⁵ conducted a cross-sectional study from September to November 2017 among 100 patients utilising the inpatient services at the hospital to evaluate the out-of-pocket costs in a tertiary care hospital in various departments of Rajendra Institute of Medical Sciences, Ranchi. According to the study's findings, the only free service that was offered to all inpatients was meals, whereas oral medications were the least likely to be delivered without charge. This resulted in the highest out-of-pocket spending on medications overall. In more than 50% of the families, more than 1 person was not able to go to work either due to

hospitalization or due to attending to the patient which led to a significant financial burden on the families. They found that patients spent a significant amount of OOP money, the majority of which went towards purchasing medications. The sample population's medical insurance penetration was extremely low, leaving the families vulnerable to financial disasters and burdening them both mentally and financially.

In order to determine the financial impact of OOPE, Satapathy et al., (2019)⁴⁶ did a comparison study among patients who were hospitalised to a tertiary care facility in Berhampur, Odisha and were beneficiaries and non-beneficiaries of the Rashtriya Swasthya Bima Yojana. The findings of their study revealed that non-beneficiaries experienced higher overall OOPE, 95.3%, than beneficiaries, and this difference was shown to be statistically significant with $\chi^2=74.8$ and P-value of 0.001. Spending was discovered among recipients in 46.1% of the sample group. For their hospital-related expenses, 45.3% of recipients had to borrow from friends and family, and 32% had to borrow entirely for their care. Beneficiaries spent the majority of their own money on life support services since they usually needed surgery-related care.

CHAPTER-3

RESEARCH METHODOLOGY

3.1 STUDY DESIGN

A descriptive cross-sectional study was conducted.

3.2 STUDY PERIOD

The study was conducted from February 2023 to May 2023.

3.3 STUDY AREA

A purposive method of sampling was applied to select the study area. High inpatient admissions under the PMJAY scheme and the willingness of the hospital authorities to give permission are considered key factors in selecting the study area. The study was undertaken in AIIMS, Rishikesh, Uttarakhand after taking permission from the concerned hospital authorities. The hospital is empaneled with the PMJAY scheme and is offering packages from about 23 specialties like cardiology, orthopedics, medical oncology, neurosurgery, obstetrics & gynecology, urology, hemodialysis, general medicine, general surgery, ophthalmology, and cardiothoracic and vascular surgery and others. The majority of the cases are from the department of Cardiology followed by the Department of Orthopedics in the hospital.

3.4 STUDY POPULATION

For this hospital-based study, the population comprised of patients who were admitted to the department of Cardiology to seek treatment under the PMJAY scheme. All the patients (or their first-degree relatives/caregivers) who were admitted to the Cardiology department during the study period were interviewed and the relevant information was sought from beneficiaries admitted as in-patients under the PMJAY scheme.

- **Inclusion criteria:**

- i. Patients admitted directly to the Department of Cardiology under the PMJAY scheme in the hospital was included in the study.
- ii. Patients seeking treatment in the Department of Cardiology under the PMJAY scheme after a referral from other departments in the hospital.
- iii. Patients admitted during the study period i.e., from February 2023 to May 2023 were interviewed.

- **Exclusion criteria:**

- i. Severely ill patients were excluded.
- ii. Patients seeking the treatment package which is not included in the Health Benefits Packages of PMJAY were excluded.
- iii. Patients who were not eligible/covered under the PMJAY scheme were excluded.
- iv. Patients who refused to take part in the study were not included.

3.5 SAMPLE SIZE

According to NSSO 75th round, OOPe in health is about 76%. Assuming it to be 80%, ($p=0.80$) and taking a 95% confidence level with $\pm 5\%$ precision, Using the formula, $n=z^2 pq/d^2$

Here, n = number of participants

Z = Standard normal variant at the confidence level of 95% (Normal value is 1.96)

p = prevalence = 0.80

$q = 1 - p = 0.20$

d = Degree of precision = 0.05

Sample size – 246

Thus, 246 people are included in the sample. 200 patients in all were questioned, and the information gained is placed into an Excel document.

- a) A total of 200 patients were interviewed.
- b) Hospital In-charge of PMJAY was interviewed.
- c) Ayushman Mitras in the hospital were also interviewed.

3.6 SAMPLING TECHNIQUE

To achieve the intended sample size, all individuals admitted to the cardiology department during the study period were included in the study, taking into account the average number of in-patient admissions based on historical records.

3.7 DATA COLLECTION

The inpatient patients were approached while they were there and asked if they would be open to taking part in the study. Each patient received a thorough participant information document before being asked to participate, and their informed permission was taken. A semi-structured interview schedule that had been tested was used during the data collection phase. This timetable was created following extensive literature research and stakeholder consultation. The interview schedule consisted of eight sections, which included gathering information on the sociodemographic profile of the study population, patient and household characteristics, awareness of the PMJAY scheme, utilization of the PMJAY scheme, details of the current hospitalization, out-of-pocket expenditure for the specific illness in the past year, comparison of mean out-of-pocket expenditure per visit in the last year to the out-of-pocket expenditure at the current health facility, and patient satisfaction with the scheme.

3.8 DATA ANALYSIS:

The data that was collected was organized and tabulated in an Excel sheet using MS Office 2019. To analyze the sociodemographic profile of the subjects, descriptive statistics such as frequency and percentage were employed. The findings were then presented in the form of tables and appropriate diagrams to provide a clear visual representation of the data.

CHAPTER-4

RESULTS

The following headings are used to present the study's findings:

1. Beneficiaries' sociodemographic features in the research population
2. Household characteristics of the study population
3. Awareness of the PMJAY scheme
4. Utilization of the PMJAY scheme
5. Details of hospitalization and health expenditure incurred to treat the particular illness at the current health facility
6. Out of Pocket Expenditure for treating the particular illness in the last one year
7. Comparison of Mean OOPE per visit in the last year with OOPE at the current health facility
8. Patient satisfaction with the scheme

1. Beneficiaries' sociodemographic features in the research population

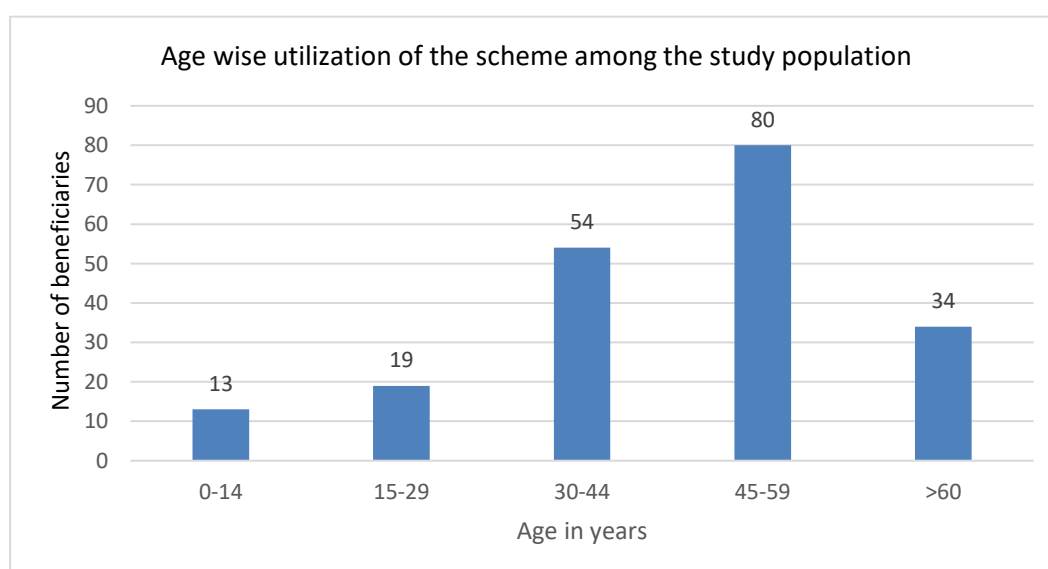


Figure 4.1 Age group of Beneficiaries utilizing the PMJAY scheme.

Figure 4.1 shows the information about the age group of the beneficiaries. 40% of beneficiaries are belonging to the age group of 45 to 59 years (n=80) followed by 27% of beneficiaries belonging to the age group of 30 to 44 years (n=54), 17% of beneficiaries are

belonging to the age group >60 years (n=34), 9.5% of beneficiaries are belonging to the age group of 15 to 29 years (n=19) and 6.5% of the beneficiaries are belonging to the age group.

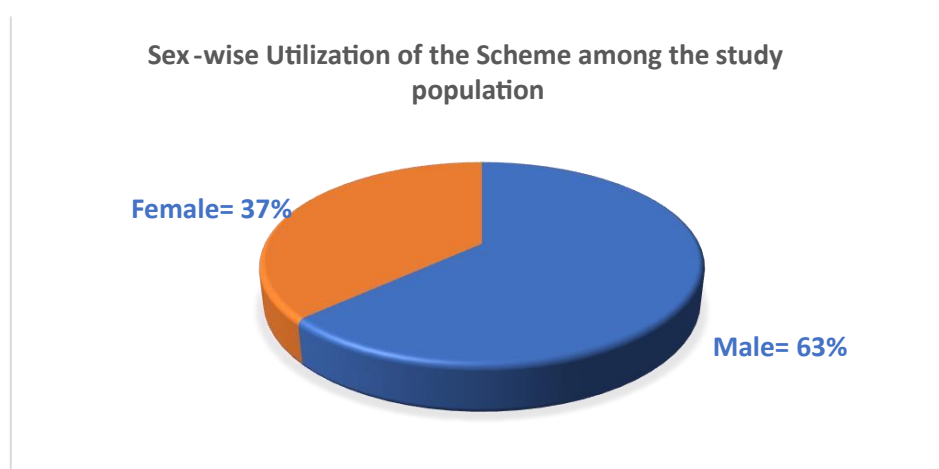


Figure 4.2 Sex of beneficiaries utilizing the PMJAY scheme.

Figure 4.2 depicts that out of 200 respondents, 63 % of the beneficiaries were male (n=126) and 37% of beneficiaries were female (n=74).

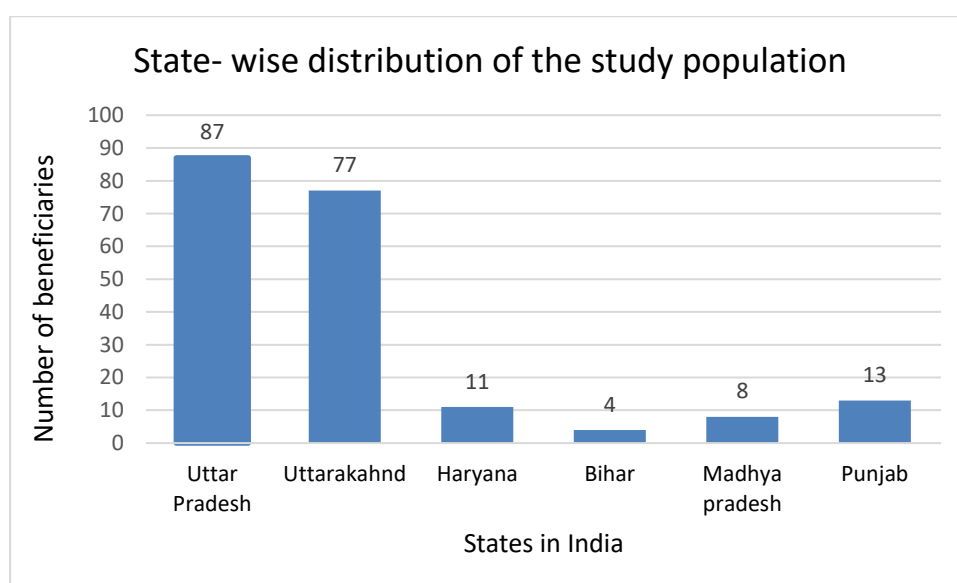


Figure 4.3 State-wise distribution of study population

Figure 4.3 shows information about the state-wise distribution of beneficiaries utilizing the PMJAY Scheme. 43.5% of beneficiaries belong to Uttar Pradesh state (n=87) followed by 38.5% of beneficiaries belonging to Uttarakhand state (n=77), 5.5% of the beneficiaries belong to Haryana state (n=11), 4% of the beneficiaries belong to Bihar state (n=4), 2% of the beneficiaries belong to Madhya Pradesh state (n=8), 6.5% of the beneficiaries belong to Punjab state (n=13). About 68.5% of the beneficiaries, or n=137, come from rural areas, while 31.5% come from urban areas, or n=63.

Table 4.1 Marital status of the study population

Marital status	Number	%
Never married	22	11%
Married	158	79%
Widowed/Divorced	20	10%
Total	200	100%

As shown in table 4.1, 79% of the beneficiaries were married, 11% were never married and 10% of them were married by widowed or divorced.

Table 4.2 History of Chronic illnesses in the study population

Chronic illness	Number	%
Known Chronic illnesses present	147	73.5%
No History of chronic illness in the recent past	30	15%
Status not known	23	11.5%
Total	200	100%

Table 4.2 represents the history of chronic diseases among the study population. Around 73% of the beneficiaries are suffering from known chronic illnesses (n=147), 15% of them have no history of any chronic illnesses in the recent past (n=30) whereas 11.5% of them do not know about their chronic illness status (n=23).

Table 4.3 Occupation of the study population

Occupation	Number		Total	Percentage
	Male	Female		
Unemployed	41	3	44	22%
Student	11	6	17	8.5%
Housewife	0	37	37	18.5%
Daily labourer	34	11	45	22.5%
Farmer	15	9	24	12%

Skilled worker	9	6	15	7.5%
Self-employed	16	2	18	9%
Total	126	74	200	100%

Table 4.3 depicts that 22.5% of the beneficiaries are daily labourers (n=45). Of them, 34 were males and 11 were females. 12% of them are farmers (n=24), 7.5% of them are skilled workers (n=15), 8.5% of them are students (n=17), 18.5% are housewives (n=37), 9% are self-employed (n=18), and 22% of the beneficiaries are unemployed (n=44).

2. HOUSEHOLD CHARACTERISTICS OF THE STUDY POPULATION

Table 4.4 Average Family Size of the study population

No. of members in the family	Number		Total	Percentage
	Rural	Urban		
Only Single member	2	7	9	4.5%
2	9	5	14	7%
3	18	18	36	18%
4	61	16	77	38.5%
5	37	12	49	24.5%
≥6	10	5	15	7.5%
Total	137	63	200	100%

Information regarding the size of the respondents' households is provided in Table 4.4. A total of 200 people responded to the survey, and of those, 77 (38.5%) had families with four members, while 49 (24.5%) had families with five. A family size of 2 people made up 7% of beneficiaries (n=14), a family of 3 people made up 18% of beneficiaries (n=36), a family of more than 6 people made up 7.5% of beneficiaries (n=15), and a beneficiary alone made up 4.5% of beneficiaries (n=9). It was found that comparatively, the family size in the rural areas is slightly higher than the family size in the urban areas.

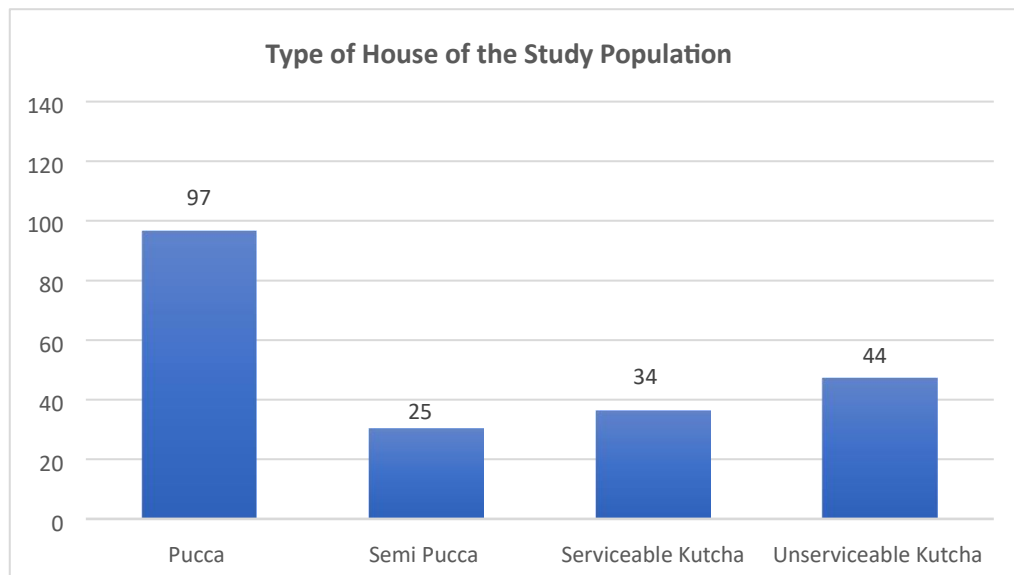


Figure 4.4 Type of house in which the patient is living

Figure 4.4 shows that 48.5% of the respondents are living in the Pucca house (n=97), 12.5% in the semi-pucca house (n=25), 17% are living in the serviceable Kutcha house and 22% of them are living in the unserviceable kutcha house. 74% of the beneficiaries are living in their own house (n= 148) whereas 26% of them are living in a rented house (n=52).

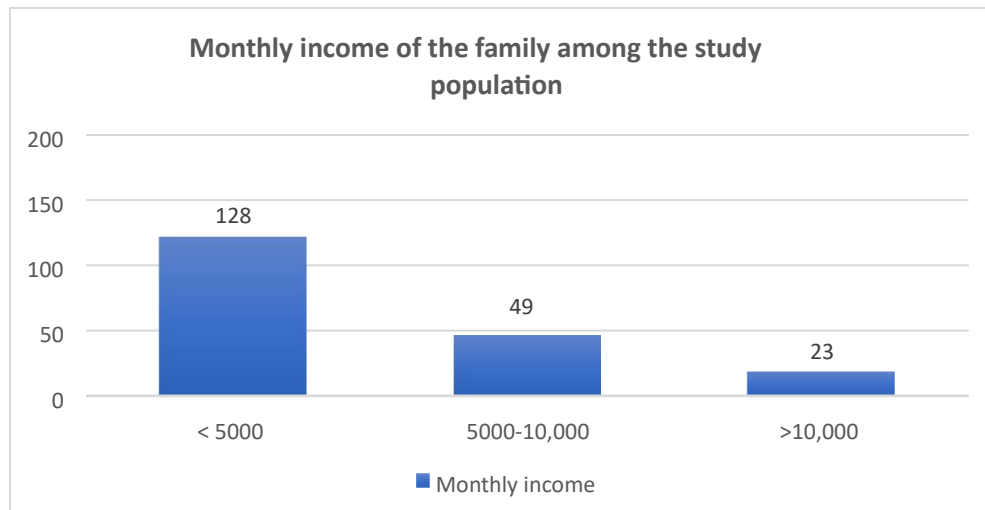


Figure 4.5 Monthly income of the family

The monthly household income distribution is shown in Figure 4.5. The results show that 64% of the surveyed families (n=128) had a monthly income of less than Rs. 5,000. Between Rs. 5,000 and Rs. 10,000 was the monthly income range for about 24.5% of the families. The remaining 11.5% consisted of households making more than Rs 10,000 per month. These numbers give a general idea of the study population's income distribution and draw attention to how common low-income households are.

Table 4.5 Per capita income of each member of the family per month

Per capita income	Number	Percentage
< 1,000	83	41.5%
1001-1500	76	38%
1501-2000	23	11.5%
2001-2500	7	3.5%
>2500	11	5.5%
Total	200	100%

Table 4.5 indicates the family's monthly per-capita income. 41.5% of the household were found to have monthly per capita incomes of less than Rs. 1,000. And 38% of them had it between Rs. 1,000 and Rs. 3.5% of the beneficiaries and 11.5% of the beneficiaries each had a monthly per capita income of between Rs. 2001 and Rs. 2500. Only 5.5% of people made more than 2,500 rupees per month in income.

3. AWARENESS OF THE PMJAY SCHEME

Table 4.6 Awareness of the financial coverage per family per year

Cover	Number	Percentage
Till Rs. 30,000	26	13%
Up to 2 Lakhs	18	9%
Up to 5 Lakhs	154	77%
Don't know	2	1%

Table 4.6 shows out of 200 sample beneficiary respondents, 77% in the sample answered correctly that Annual coverage per family per year is up to Rs. 5,00,000. 13% of them said Up to Rs.30,000 followed by 9% responses received from beneficiaries saying up to Rs 2,00,000 is the annual coverage per family per year under PMJAY Whereas 1 % of the beneficiaries answered to the question that they don't know the of annual coverage per family per year under PMJAY scheme.

Table 4.7 Awareness of the eligible members covered per family under the scheme

Number of members/family	Number	Percentage
Max 4 members /family	8	4%
Max 5 members/family	45	22.5%
All the members of the family	146	73%
Don't know	1	<1%
Total	200	100%

Table 4.7 shows awareness regarding who all are eligible members for getting the benefits under PMJAY. Some questions regarding the same were asked to 200 beneficiaries and the following responses were received from the beneficiaries. 146 beneficiaries (73%) answered all members of the family are eligible to get the benefits under PMJAY 45 beneficiaries (22.5%) answered maximum of 5 members in the family can get the benefit of the scheme whereas 8 (4%) answered maximum 4 members in the family eligible to get the benefits under PMJAY and only 1 beneficiary (<1%) answered that they don't know the eligible number of family members who can take the benefits under the Scheme

Table 4.8 Awareness of the type of hospitals providing PMJAY scheme benefits.

Type of hospital	Number	Percentage
All Public Hospitals	86	43%
All Private Hospitals	16	8%
Only empaneled Public & Private hospitals	94	47%
Don't know	4	2%
Total	200	100%

Table 4.8 represents awareness of the type of hospitals providing PMJAY scheme benefits. Hence when the question was asked, 47% of the beneficiaries (n=94) correctly responded that only empaneled Public and Private Hospitals can provide the PMJAY scheme benefits.

Table 4.9 Awareness of service coverage under the PMJAY scheme

Type of service	Number	Percentage
Both OPD & IPD services	93	46.5%
Only OPD Services	20	10%
Only IPD services	87	43.5%
Total	200	100%

Table 4.9 shows the awareness of the service coverage under the PMJAY scheme. On asking the related questions, 43.5% of the beneficiaries (n=87) correctly responded that only IPD services are covered under the scheme, 46.5% of them (n=93) responded that both OPD and IPD services are covered under the scheme while 10% of them (n=20) responded that only OPD services are covered under the scheme and Private Hospitals can provide the PMJAY scheme benefits.

4. UTILIZATION OF THE PMJAY SCHEME

Out of 200 respondents, 189 (94.5%) have not paid any amount to be a part of this scheme whereas, 11 (5.5%) of them responded that they don't know about the payment details.

Table 4.10 Closest empanelment facility

Distance (in Km)	Number		Total Number	Percentage
	Rural	Urban		
< 50 km	8	38	46	23.1%
51-100 km	12	25	37	17.8%
101-200 km	39	0	39	19.7%
>200km	36	0	36	18.2%
Don't know	42	0	42	21.2%
Total	137	63	200	100%

Table 4.10 gives information about the awareness of the closest empanelment facility to the beneficiaries. On asking the related questions, 23.1% of them responded that a nearby empaneled facility is within 50km, 19.7% responded that it is within 101 to 200 km, 17.8% said that it is within 51 to 100 km, 18.2% said the nearby empaneled facility is more than 200 km, while 21.2% of them responded that they don't know the nearby empaneled health facility.

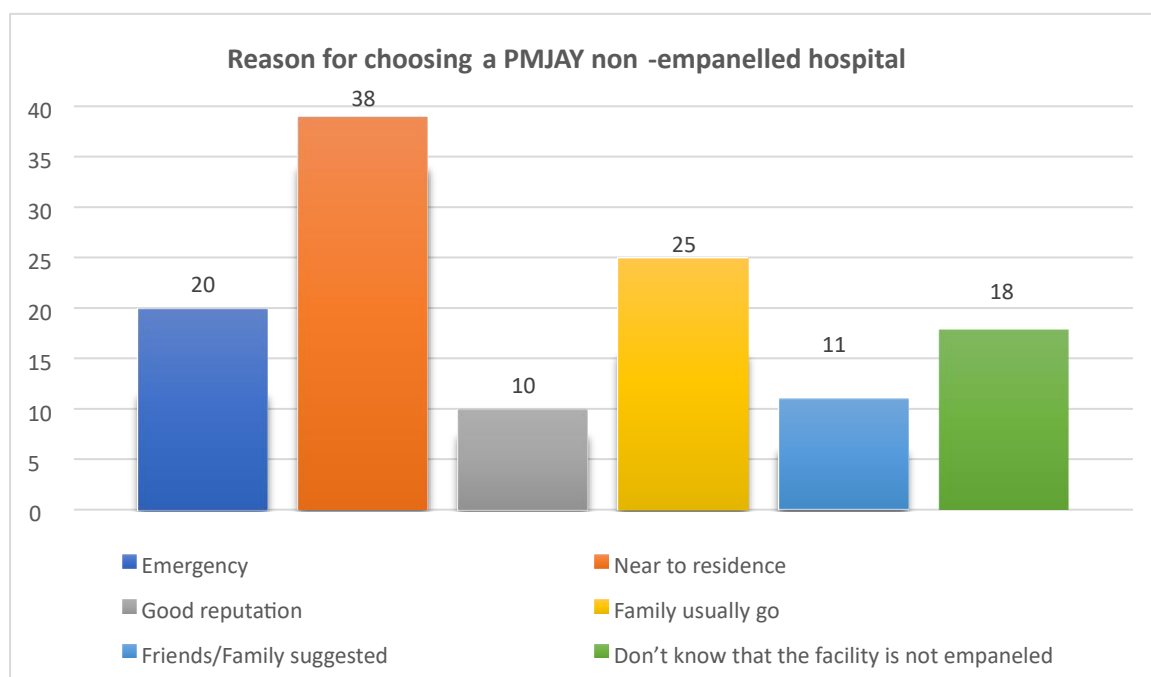


Figure 4.6 Reasons for choosing a PMJAY non-empaneled hospital.

Out of 200, 173 respondents (86.5%) have visited some other hospital before coming to the current hospital. Of the 173 respondents, 51 had visited PMJAY empaneled health facility whereas 122 had visited a non-empaneled hospital. Figure 4.6 shows the reasons for choosing a PMJAY non-empaneled hospital. 31.4% of them (n=38) attended the non-empaneled as the hospital was near to their residence, 16.3% of them (n=20) visited as it was an emergency, 8.2% of them (n=10) visited because of the good reputation of the hospital, 20.4% went because they usually go the particular health facility, 9% of them (n=11) went to the facility as it was suggested by their friends/family/relatives whereas 14.7% of them (n=18) visited a non-empaneled facility as they were not aware that the facility is not empaneled under PMJAY scheme (Figure 4.6)

5. DETAILS OF HOSPITALIZATION AND HEALTH EXPENDITURE TO TREAT THE PARTICULAR ILLNESS AT THE CURRENT HOSPITAL

Table 4.11 Information provided to the patient about the cost involved in treating in advance and about the money left in the smartcard.

Information is given regarding	Number		Total
	Yes	No	
The cost involved in treating	24	176	200
Money left in the smartcard	8	192	200

Table 4.11 depicts that the majority (88%) of the respondents (n=176) were not informed about the cost involved in treating the patient in advance whereas only 12% of them (n=24) were informed about the cost involved in treating the patient in advance. Most (96%) of the respondents (n=192) were not informed about the money left in the smartcard whereas only 4% of them (n=8) were informed about the money left in the smartcard in advance.

Table 4.12 Duration of hospitalization

Duration	Number	Percentage
Only 1 day	52	26%
2 days only	74	37%
3-5 days	44	22%
6-7 days	20	10%
>7 days	10	5%
Total	200	100%

Table 4.12 gives information about the duration of hospitalization of the patients in the hospital. The majority of the patients (37%) stayed in the hospital for 2 days, 26% of them were hospitalized for only one day, 22% of them were hospitalized for three to five days, 10%

of the patients were hospitalized for six to seven days and 5% of them stayed in the hospital for more than seven days.

Table 4.13 Amount spent on consultation fees for doctors and bed charges

Amount paid for	Paid any amount	Did not pay any amount	Total
Consultation fee	0	200	200
Bed Charges	0	200	200

Table 4.13 shows that among the 2000 respondents, none of them paid any amount for a doctor's consultation during their hospital stay and none of them paid any amount for bed charges during their hospital stay.

Table 4.14 Amount spent on Diagnostic charges

Amount Paid (In Rs.)	Number	Percentage
Did not pay any amount	170	85%
<2000	18	9%
2001-5000	8	4%
>5000	4	2%
Total	200	100%

Table 4.14 shows that about 30 patients (15%) had to pay for the diagnostic test charges. The Majority of the patients (85%) did not pay any amount for diagnostic services under the scheme. The rest had to pay due to reasons like long waiting time to get the diagnostic investigations done, and lack of awareness that the investigations are also covered under the PMJAY scheme.

Table 4.15 Amount spent to purchase Medicines

Amount Paid (In Rs.)	Number	Percentage
Did not pay any amount	155	77.5%
<2000	38	19%
2001-3000	4	2%
>3000	3	1.5%
Total	200	100%

All medications required for patient treatment during the trial were anticipated to be given as part of the therapeutic services. However, the results showed that about 22.5% of the people (45 patients) had to pay for their medication. In this group of patients, 19% paid less than Rs. 2000, although some had to pay more (as indicated in Table 4.15). This incident was primarily caused by the hospital's pharmacy not having specific medications on hand. Patients in urgent cases have to obtain the necessary medications from outside vendors. This reveals a shortage of necessary pharmaceuticals within the hospital, forcing patients to look outside for their urgent medical need.

Table 4.16 Number of attendants accompanying per patient

Number of attendants	Number	Percentage
Without any attendant	23	11.5%
Only one	141	70.5%
Two	28	14%
Three	8	4%
Total	200	100%

Table 4.16 shows the number of attendants accompanying per patient. The majority of the patients (70.5%) were accompanied by only one attendant, 14% of the by two attendants, and 4% of them by three attendants whereas 11.5% of the patients were not accompanied by any attendant.

Table 4.17 Amount spent on Food during the hospital stay

Amount Paid (In Rs.)	For patient		For attendant(s)	
	Number	Percentage	Number	Percentage
Did not pay any amount	89	44.4%	0	0
<1000	86	42.8%	158	78.8%
1001-2000	25	12.8%	19	9.7%
Total	200	100%	177	88.5%

Table 4.17 shows the amount spent on food during the hospitalization for both the patient and attendant(s). The food for the patients was free of cost during the hospital stay but some patients had to spend some amount on a specific diet like fruits, and nutrient diet. Food for the attendants was not provided by the hospital. 78.8% of the attendants had to spend less than Rs. 1000 whereas 9.7% of them had to spend an amount between Rs. 1000 to Rs.2000.

Table 4.18 Amount spent on accommodation for seeking treatment

Amount Paid (In Rs.)	For patient		For attendant(s)	
	Number	Percentage	Number	Percentage
Did not pay any amount	181	90.3%	151	75.6%
<1000	17	8.4%	22	11.2%
1001-2000	2	1.3%	4	1.6%
Total	200	100%	177	88.5%

Table 4.18 gives information of the amount spent on accommodation during the hospitalization for both the patient and attendant(s). 9.7% of the patients had to spend some money for accommodation during the hospital stay. 75.6% of the attendants did not spend any amount on accommodation during the hospital stay whereas 11.2% of them and 1.6% of them had to spend an amount less than Rs. 1000 and an amount between Rs. 1001 and Rs. 2000 respectively. The main reason for this was the waiting time for the pre-authorization and an appointment for further consultation was given the next day or days later.

Table 4.19 Amount spent on transport for seeking treatment

Amount Paid (In Rs.)	For patient		For attendant(s)	
	Frequency	Percentage	Frequency	Percentage
<1000	71	35.3%	64	32.5%
1001-2000	81	40.3%	86	42.8%
2001-3000	48	24.4%	27	13.1%
Total	200	100%	177	88.5%

Table 4.19 shows the amount spent on transportation for seeking treatment for both the patient and attendant(s). 35.3% of the patients (n=71) had to spend an amount less than Rs. 1000 for travel to seek treatment under the scheme. 40.3% of the patients (n=81) and 24.4% of them (n=48) had to spend an amount between Rs. 1001 to Rs. 2000 and Rs. 2001 to Rs. 3000 respectively. 32.5% of the attendants (n=104) spent an amount less than Rs. 1000 on travel whereas 42.8% of them (n=86) and 13.1% of the attendants (n=27) spent an amount between Rs. 2001 to Rs. 3000 respectively.

Table 4.20 Daily wage loss during treatment

Amount Paid (In Rs.)	For patient		For attendant(s)	
	Frequency	Percentage	Frequency	Percentage
No wage loss	78	39.1%	98	49.1%
<300	64	32.2%	44	22.1%
301-500	48	24%	35	17.2%
>500	10	4.7%	0	0
Total	200	100%	177	88.5%

Table 4.20 shows the wage loss for the patients and attendant(s) during the treatment. 39.1% of the patients (n=78) and 49.1% of the attendants (n=98) had no wage loss as they were students or housewives or not working. 32.2% of the patients (n=64) and 22.1% of the attendants (n=44) had a wage loss of Rs. 300 per day. 24% of the patients (n=48) and 17.2% of the attendants (n=35) had a wage loss between Rs. 301 to Rs. 500 per day. Around 4.7% of the patients (n=10) had a wage loss over Rs. 500 per day whereas none of the attendants had a wage loss above Rs. 500 per day.

Table 4.21 Number of days of wage lost for seeking the treatment

Number of days of wage lost	For patient		For attendant(s)	
	Frequency	Percentage	Frequency	Percentage
No wage loss	78	39.1%	98	49%
<3 days	27	12.8%	20	10%
4-6 days	29	14.7%	18	9.1%
7-10 days	37	18.4%	16	8.1%
>10 days	29	15%	25	12.3%
Total	200	100%	177	88.5%

Table 4.21 represents the number of days of wage lost for seeking treatment for both the patient and the attendants. It is already shown in table 4.20 that 39.1% of the patients (n=78) and 49.1% of the attendants had no wage loss as they were students or housewives or not working. 12.8% of the patients and 10% of the attendants lost their wages for less than three days respectively. 14.7% of the patients and 9.1% of the attendants lost their wages for four to six days respectively. 18.4% of the patients and 8.1% of the attendants lost their wages for seven to ten days respectively. 15% of patients and 12.2% of attendants, respectively, were unable to pay their bills for more than 10 days.

The primary source of income for living expenditures for the study group.

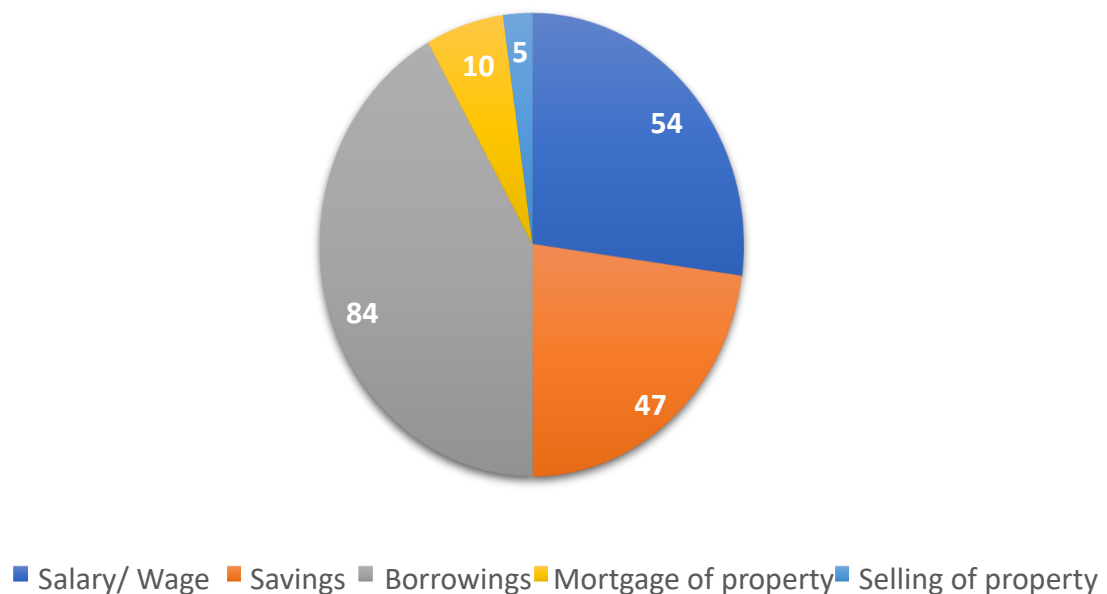


Figure 4. 7 Resources for generating income to cover costs.

Information about the source of revenue used to pay bills at the current hospital is shown in Figure 4.7. Majority of the patients (n=84) borrowed some money from their friends or relatives, 54 patients spent amount from their wages/salaries, 47 patients utilized their savings while 10 of them had to mortgage some property and 5 of them had to sell their property to meet the expenses at the hospital.

6. OUT OF POCKET EXPENDITURE FOR TREATING THE PARTICULAR ILLNESS IN THE LAST YEAR

The number of inpatient admissions the research population had over the past 12 months.

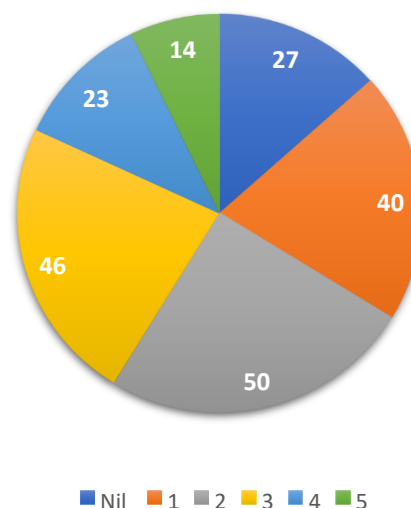


Figure 4.8 The frequency of hospital visits in the last year (IP)

The frequency of hospital visits over the previous year (IP) is shown in Figure 4.8. It was noted that 27 patients—out of a total of 200—had no hospital admissions at all during that time. The remaining patients had admissions for 40 of them once, 50 twice, 46 three times, 23 four times, and 14 five or more times over the course of the previous year. These numbers shed light on the study population's hospitalisation frequency distribution and highlight the various ways in which healthcare services are used.

i. Direct medical expenditure

Table 4.22 Doctor's consultation fee

The total amount paid for consultations	Frequency	Percentage
<1000	127	73.6%
1001-2000	33	18.8%
2001-3000	9	5.4%
>3000	4	2.2%
Total	173	100%

Table 4.22 shows that the majority of the patients spent an amount of less than Rs. 1000 on doctor's consultation fees followed by 18.8% of them (n=33) who spent an amount between Rs. 1000 to Rs. 2000. A few of them (n=4) had to spend an amount of more than Rs. 3000 on Doctor's consultation fee.

Table 4.23 Bed charges

The total amount paid for bed charges	Frequency	Percentage
<1000	18	10.5%
1001-2000	22	13%
2001-3000	44	25.6%
3001-5000	52	30%
>5000	37	20.9%
Total	173	100%

More than half of the patients spent an amount of more than Rs. 3000 on bed charges and a few of them (n=18) had to spend an amount of less than Rs. 1000 on the Doctor's consultation fee in the last year. (Table 4.23)

Table 4.24 Diagnostic charges

Amount Paid (In Rs.)	Frequency	Percentage
<1000	11	6.5%
1001-2000	22	12.6%
2001-3000	29	17%
3001-5000	60	34.7%
5000-10000	37	21.3%
>10000	14	7.9%
Total	173	100%

Table 4.24 shows that the majority of the patients (34.7%) had to pay an amount between Rs. 3001 to Rs. 5000 for the diagnostic test charges. The rest had to pay due to reasons like long waiting time to get the diagnostic investigations done, and lack of awareness that the investigations are also covered under the PMJAY scheme.

Table 4.25 Medicine Charges

Amount Paid (In Rs.)	Frequency	Percentage
<2000	14	8.3%
2001-4000	72	41.2%
4001-6000	33	19.1%
>6,000	54	31.4%
Total	173	100%

During the study, it was found that nearly 41.2 % of the respondents have paid an amount between Rs. 2001 to Rs. 4000 for buying medicines. Followed by 31.4% of the respondents (n=54) who spent an amount of more than Rs. 6000 for purchasing medicines in the last year (table 4.25).

ii. Indirect expenditure

Table 4.26 Amount spent on Food during the hospital stay for both patient & attendant

Amount Paid (In Rs.)	Frequency	Percentage
<2000	51	29.2%
2001-4000	111	63.9%
>4000	11	6.9%
Total	173	100%

Table 4.26 shows the amount spent on food during the hospitalization for both the patient and attendant(s) in the last year. In most instances, food for the patient was provided free of cost or included in the treatment package during the hospital stay but some patients had to spend some amount for a specific diet like fruits, and nutrient diet. Food for the attendants was not provided by the hospital. Overall, the majority of the respondents 63.9% (n=111) had to spend an amount between Rs. 2000 to Rs.4000.

Table 4.27 Amount spent on accommodation for seeking treatment for both patient & attendant

Amount Paid (In Rs.)	Frequency	Percentage
<2000	114	66.1%
2001-4000	37	21.3%
>4000	22	12.6%
Total	173	100%

Table 4.27 depicts the amount spent on accommodation during the hospitalization for both the patient and attendant(s). The majority of the attendants 66.1% (n=114) spent an amount less

than Rs. 2000 on accommodation during the hospital stay in the last year whereas 21.3% of them (n=37) and 12.6% of them (n=22) had to spend an amount between Rs. 2001 and Rs. 4000 and more than Rs. 4000 respectively.

Table 4.28 Amount spent on transport for seeking treatment for both patient & attendant

Amount Paid (In Rs.)	Frequency	Percentage
<2000	46	26.4%
2001-4000	53	30.7%
>4000	74	42.9%
Total	173	100%

Table 4.28 represents the amount spent on transportation for seeking treatment for both the patient and attendant(s) in the last one year. Most of the respondents, 42.9% (n=74) spent an amount of more than Rs. 4000 on travel to seek treatment.

Table 4.29 Daily wage loss during treatment

Amount Paid (In Rs.)	For patient		For attendant(s)	
	Frequency	Percentage	Frequency	Percentage
No wage loss	67	38.6%	86	49.5%
<300	57	32.9%	42	24.5%
301-500	39	22.4%	36	20.6%
>500	10	6.1%	9	5.4%
Total	173	100%	173	100%

Table 4.29 shows the wage lost by the patients and attendant(s) during the treatment. 38.6% of the patients (n=67) and 49.5% of the attendants (n=86) had no wage loss as they were students or housewives or not working. 32.9% of the patients (n=57) and 24.5% of the

attendants (n=42) had a wage loss of less than Rs. 300 per day. 22.4% of the patients (n=39) and 20.6% of the attendants (n=36) had a wage loss between Rs. 301 to Rs. 500 per day. Around 6.1% of the patients (n=10) had a wage loss over Rs. 500 per day whereas 5.4% of the attendants (n=9) had a wage loss above Rs. 500 per day.

Table 4.30 Number of days of wage lost for seeking the treatment

Number of days of wage lost	For patient		For attendant(s)	
	Frequency	Percentage	Frequency	Percentage
No Wage loss	67	38.6%	86	49.5%
<3 days	13	7.6%	18	10.5%
4-6 days	34	19.5%	26	14.8%
7-10 days	24	14.1%	21	11.9%
>10 days	35	20.2%	22	13.3%
Total	173	100%	173	100%

Table 4.30 represents the number of days of wage lost for seeking treatment for both the patient and the attendants. It is already shown in table 4.28 that 38.6% of the patients (n=67) and 49.5% of the attendants (n=86) had no wage loss as they were students or housewives or not working. 7.6% of the patients (n=13) and 10.5% of the attendants (n=18) lost their wages for less than three days respectively. The majority of the respondents, around 20.2% of the patients (n=35) and 13.3% of the attendants (n=22) lost their wages for more than ten days respectively in the last one year.

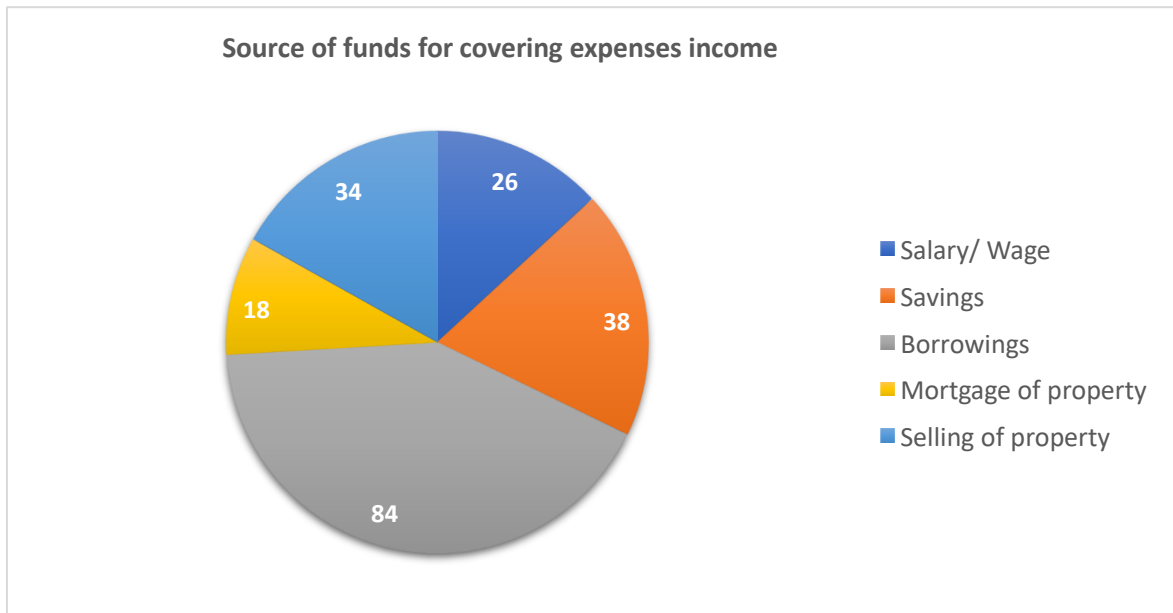


Figure 4.9 Source of funds for covering expenses income

Figure 4.9 gives information about the source of income to meet expenses at the current hospital. The majority of the patients (n=84) borrowed some money from their friends or relatives, 26 patients spent an amount from their wages/salaries, 38 patients utilized their savings while 18 of them had to mortgage some property and 34 of them had to sell their property to meet the expenses at the hospital.

7. COMPARISON OF MEAN OOPE PER VISIT IN THE LAST YEAR WITH OOPE AT THE CURRENT HEALTH FACILITY

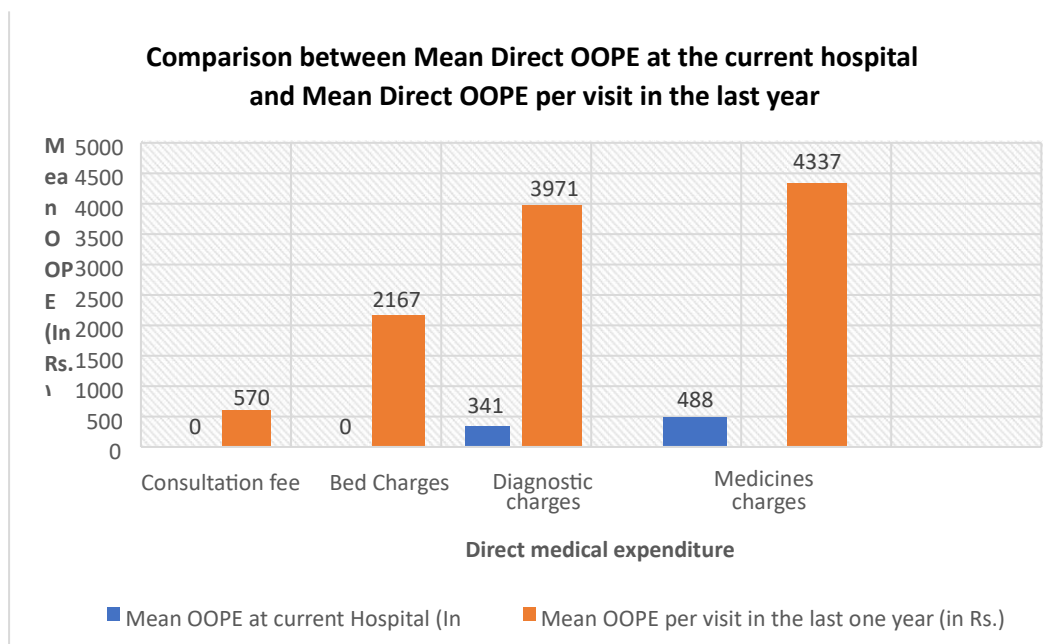


Figure 4.10 Comparison between Mean Direct OOPE at the current hospital and Mean Direct OOPE per visit in the last year

Figure 4.10 depicts the comparison between mean direct OOPE at the current hospital and the OOPE per visit in the last year. During the study, it was found that none of the respondents had any OOPE on consultation fees and bed charges in the current health facility. It was seen that the mean OOPE at the current hospital on diagnostic charges and medicines charges is drastically decreased by approximately ten-fold when compared with the Mean OOPE per visit in the last year.

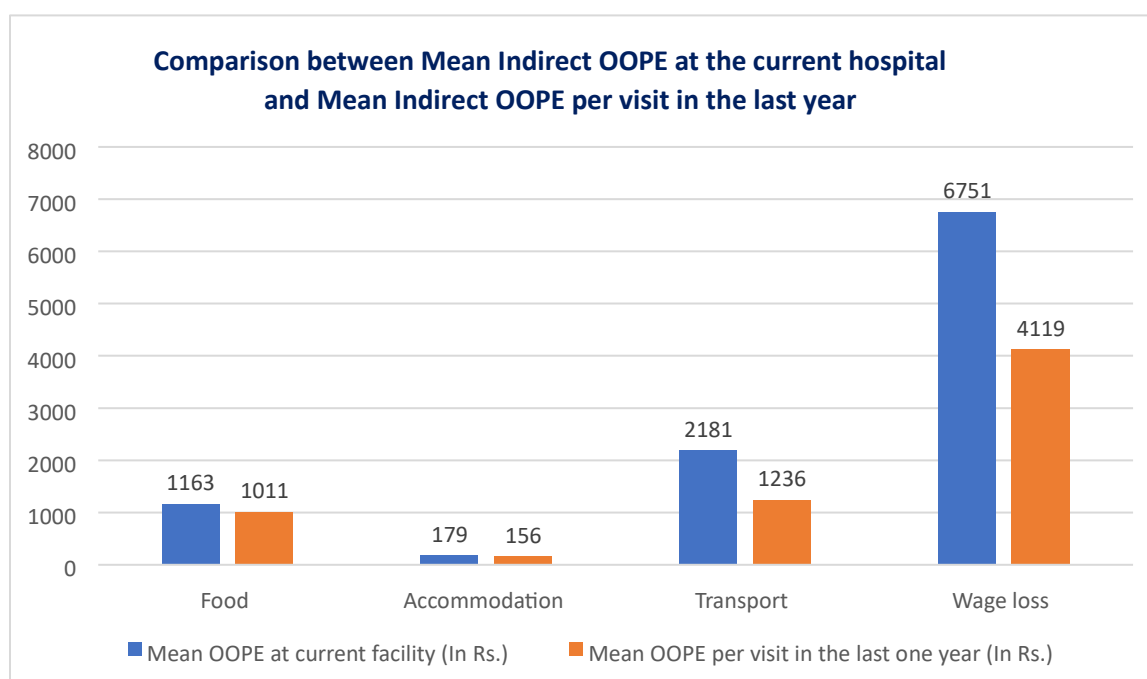


Figure 4.11 Comparison between Mean Indirect OOPE at the current hospital and Mean Indirect OOPE per visit in the last year

Figure 4.11 represents the comparison between mean indirect OOPE at the current hospital and the OOPE per visit in the last one year. When the Mean Indirect OOPE at the current hospital and the Mean OOPE per visit in a year are compared, the study found that there has been no appreciable change in the indirect OOPE. On the contrary, it was seen that there is a slight increase in the mean OOPE at the current hospital on food, accommodation, transport, and also wage loss. The reason for the increase in indirect health expenditure in the current hospital may be because the majority of the respondents were from surrounding states and they had to travel a long distance, arrange for food and accommodation in Rishikesh, and also had a greater number of days of wage loss.

8. PATIENT SATISFACTION WITH THE SCHEME

Table 4.31 Patient satisfaction regarding the accessibility of the hospital

Criteria	Frequency	Percentage
Very satisfied	113	56.5%
Satisfied	61	30.3%
Neutral	19	9.7%
Unsatisfied	6	2.8%
Very Unsatisfied	1	0.7%
Total	200	100%

According to Table 4.31, more than half of the respondents (56.5%) were extremely satisfied with the hospital's accessibility due to its good road access and proximity to the train station, and less than 1% of the respondents were extremely dissatisfied.

Table 4.32 Patient satisfaction regarding the admission procedure under the scheme

Criteria	Frequency	Percentage
Very satisfied	89	44.5%
Satisfied	72	35%
Neutral	11	5.5%
Unsatisfied	20	10%
Very Unsatisfied	10	5%
Total	200	100%

Less than half of the patients (44.5%) were very satisfied with the admission procedure under the scheme followed by 35% of the respondents who were satisfied with the admission

procedure under the scheme. Very few respondents (5%) said that they were very unsatisfied with the admission procedure. (Table 4.32)

Table 4.33 Patient satisfaction regarding the Treatment & services provided under the scheme

Criteria	Frequency	Percentage
Very satisfied	132	66%
Satisfied	40	20%
Neutral	7	3.5%
Unsatisfied	17	8.5%
Very Unsatisfied	4	2%
Total	200	100%

Table 4.33 depicts that among the respondents, 66% were very satisfied with the treatment and services provided under the scheme whereas only 2% of them were very unsatisfied with the treatment and service provision under the scheme. 3.5% of the respondents were having a neutral opinion regarding the admission procedure and service provision under the scheme.

Table 4.34 Role of Ayushman Mitra in the discharge process and follow-up advice and date, discharge card given at discharge

Criteria	Yes		No	
	Frequency	%	Frequency	%
Ayushman Mitra Assisted in discharge process	142	71%	58	29%
Follow up advice and date, discharge card given	164	82%	36	18%

Table 4.34 represents that the majority of the patients said that the Ayushman Mitras helped them in the discharge procedure (71%) and they were provided with follow up advice and follow up date along with the discharge card (82%) at the time of discharge.

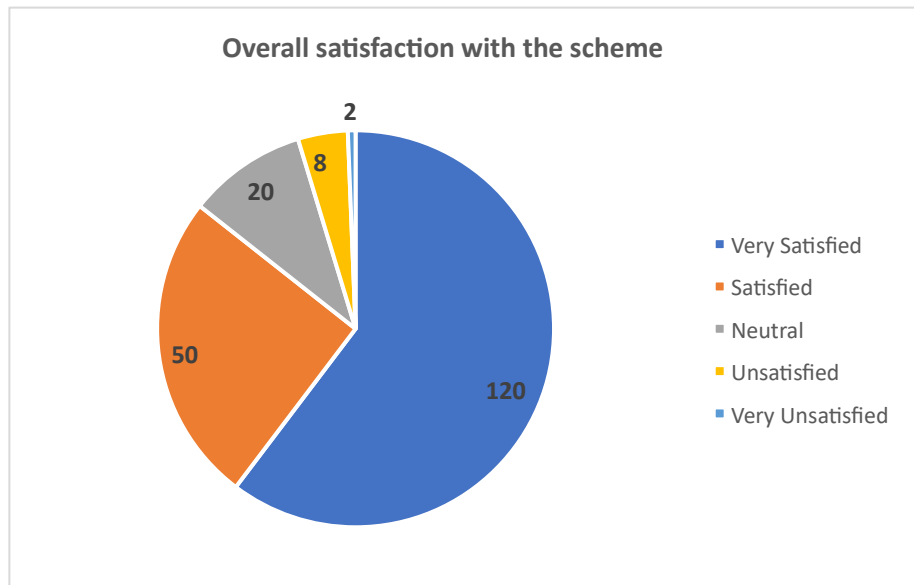


Figure 4.12 Overall satisfaction with the PMJAY scheme

Figure 4.12 depicts that 60% of the respondents were very satisfied followed by 25% of them (n=50) are satisfied with the scheme in terms of treatment and the benefits provided to them under the scheme whereas less than 1% of them (n=2) were very unsatisfied with the scheme. Around 10% of them (n=20) had a neutral opinion on the functioning of the scheme and the services provided to them under the scheme.

CHAPTER-5

DISCUSSION

The study's goals were to determine how much people knew about the maximum number of family members, the maximum amount of coverage, the kind of hospital that offered the benefits, and the kinds of in-patient services that were covered by the plan. It was discovered how the programme was used by beneficiaries of different ages, sexes, places of residence (rural or urban), educational levels, family monthly incomes, occupations of the patient and family heads, treatment categories, and hospital preferences. Additionally, information was obtained regarding indirect out-of-pocket expenses such as transportation, food, lodging, and wage loss during the course of the treatment as well as direct out-of-pocket expenses such as money spent on investigations, medications, and doctor consultation fees at the time of hospital treatment. The study also gives information about patient satisfaction with the services provided under the scheme.

1. Publicly funded health insurance programmes are known about, used, and covered.

Government-sponsored health insurance programmes' long-term effectiveness is primarily based on how well-known they are to the general public. Given the unique qualities of the empanelled hospitals included in the scheme, more beneficiaries are likely to use the programme when there is a higher degree of awareness. In essence, raising awareness is essential for boosting programme use and reaping its rewards, especially in respect to the services provided by the participating hospitals.

According to Figure 4.1, the bulk of respondents (40%) belonged to the 45–59 age range. 27% of respondents in the 30 to 44 year old age range came in second place. Additionally, 17% of the beneficiaries were 60 years of age or older. According to the survey, 63% of the recipients were men and 37% were women. These results are in line with research by Patel et al. (2013) on the Ahmedabad RSBY, which found that 43% of beneficiaries were between the ages of 41 and 60.⁵⁰

According to the study's findings, 73% of the recipients knew that everyone in their family was eligible to use the services offered by the PMJAY scheme. Furthermore, only a maximum of 5 family members were permitted to benefit from the scheme, which was only known by 22.5% of the recipients. It's interesting to note that less than 1% of the recipients were not aware of the precise number of eligible people who could get benefits from the programme. These findings were in line with a study by Dash U et al. (2020) that was done in three states (Bihar, Haryana, and Tamil Nadu), and which found that 71% of recipients in the state of Haryana knew that all family members could receive benefits under the PMJAY programme.³²

Being aware of the number of beneficiaries eligible for the PMJAY scheme plays a crucial role in its utilization. This scheme differs from earlier publicly funded health insurance programmes in India like RSBY, Arogya Sri in Andhra Pradesh, the Chief Minister's comprehensive health scheme in Tamil Nadu, and Vajpayee Arogya Sri in Karnataka by offering healthcare services to all members of a family. The current system makes sure that every family member is eligible for healthcare services, unlike prior schemes, which had a maximum restriction of 5 persons per family to get the benefits. This inclusive feature sets the PMJAY scheme apart, ensuring that the benefits extend to all eligible family members

without such limitations. Understanding this distinction is significant in promoting the utilization of the scheme and providing comprehensive healthcare coverage to a broader population.

According to a study by Dash U et al (2020), 95% (n = 111) of the participants knew that the scheme offered a maximum coverage of 5,00,000 rupees per household per year.³² The current study found that 77% of the respondents were aware of the maximum amount of coverage under the PMJAY, i.e., annual coverage of up to Rs. 5,00,000 per family. A similar study conducted in the Thanjavur district of Tamil Nadu state by Pugazhenth (2021) that emphasized mainly awareness of cancer care among the beneficiaries under PMJAY found that the level of awareness among beneficiaries about the amount covered under PMJAY was 42%.³⁴

In this study, it was discovered that 47% of the respondents were aware that the PMJAY scheme's advantages could only be provided by empaneled public and private institutions. 43% of the respondents were unaware of the type of hospitals providing the benefits under the PMJAY scheme and answered that all the public hospitals can provide the services under the scheme. Awareness about the empaneled hospitals is a driving factor for better utilization of the scheme. A similar study conducted by Dash U et al (2020) revealed that only 21% of beneficiaries in the state of Haryana were aware of the same.³² One reason for this huge disparity in numbers could be that the study was conducted at the community level during the early stages of implementation of the scheme and the other reason could be the literacy and educational status of the study population.

2. Out of Pocket Expenditure in the Cardiology patients under PMJAY

According to the survey's results, diagnostic procedures and drugs account for a sizable share of out-of-pocket costs. Indirect costs such as lost income and travel expenditures also add to the overall financial burden. These findings are in line with a study by Ambade M. et al. (2022), which looked at the relative contributions of different factors like prescription medications, diagnostic tests, doctor and surgeon fees, other medical services, as well as non-medical health-related expenses like travel, lodging, and food. The analysis found that non-medical costs were high and made up a sizeable share of overall healthcare spending.⁴³

None of the respondents had any OOPE on consultation fees or bed charges in the current healthcare institution, as was discovered during the survey. When compared to the Mean OOPE per visit in the previous year, it was seen that the mean OOPE at the current hospital for diagnostic charges and medication charges has been substantially reduced by almost 10 times. It may be inferred that without the PMJAY programme for the poor, a higher percentage of households would be in financial trouble and many of them would have chosen not to receive treatment at all. Therefore, it may be claimed that PMJAY offers some help to those who are poor and vulnerable.

This study revealed that there is no significant change in the indirect OOPE when the Mean Indirect OOPE at the current hospital and Mean OOPE per visit in one year is compared. On

the contrary, it was seen that there is a slight increase in the mean OOPE at the current hospital on food, accommodation, transport, and also wage loss. The reason for the increase in indirect health expenditure in the current hospital may be because the majority of the respondents were from surrounding states and they had to travel a long distance, arrange for food and accommodation in Rishikesh, and also had a greater number of days of wage loss. It was observed in the study that the mean indirect Out of Pocket expenditure among the beneficiaries due to wage loss is significantly high at the current hospital than the mean indirect out-of-pocket expenditure as wage loss per visit in the last year. On exploring the reasons for the same, it was found that the patients had to travel from their state of residence to the current hospital and stay in Rishikesh during the course of treatment. Hence, they lost their wages for a comparatively longer duration.

During the study, it was found that about 22.5% of the beneficiaries (n=45) paid some amount to buy medicines. Ideally, all medicines have to be provided free of cost under the PMJAY scheme. But there are certain instances where the beneficiaries were asked to buy some medicines from outside. The main reason for this is the non-availability of the medicines in the pharmacy attached to the hospital (AMRIT Pharmacy). In some cases, the patients were already on some medication and they preferred to take those medicines from private pharmacies as the drugs given in the hospital are of different brands.

This study revealed that about 15% of beneficiaries (n=30) had to pay for the diagnostic tests. To mention a particular case some of the patients were told initially that the provisionally diagnosed disease is not included in the PMJAY scheme and needs further investigations like ultrasound, CT- Scan, X-ray, etc. for confirmation of diagnosis. In such cases, the patients were made to pay for the diagnostic procedures. It was observed that if the patients were not willing to pay for investigations, they were advised to get their investigations done from a public hospital and the same reports were used for the pre-authorization by the hospital which is not a fair practice as the Health Benefits Package under PMJAY scheme includes the diagnostics charges also.

The study's findings showed that, of the services offered to inpatients, food was the only one that was free for every patient. Conversely, the administration of oral medications was the least frequent, resulting in higher out-of-pocket (OOP) costs for medications. Families were put under a heavy financial burden as a result, with more than 50% of them having at least one member who was unable to work as a result of being hospitalised or caring for the sick. The study found that patients incurred significant out-of-pocket expenses, with the majority going towards buying medications. The sample population showed low medical insurance penetration, putting families at risk for financial disasters and adding stress to them both mentally and financially.

This study found that more than half of the beneficiaries (60%) were very much satisfied with the scheme and only about 4% were dissatisfied. The beneficiaries were satisfied with various components like accessibility, service provision in the hospital, friendly behavior of the staff, and smooth discharge procedure. One important element that had a good impact on patient satisfaction was the support the Ayushman Mitras offered. The study's findings are in line with

those of a study carried out by J. Patel et al. (2013) to understand people's experiences with the RSBY, their out-of-pocket costs for health services, and their awareness of the benefits of the programme, as well as an evaluation of their satisfaction with the use of the programme. That study also discovered that beneficiary satisfaction with the RSBY was almost 90%.⁵⁰

According to this survey, the average direct medical expense for a hospital stay at the present facility—which includes bed fees, physician/surgeon fees, the total cost of medications, diagnostic tests, and attendant costs—is roughly Rs. 1261. The average direct medical expense for a hospital stay in a public health facility, as reported by the NSSO 75th round report, is Rs. 4452 and includes bed fees, physician/surgeon fees, the total cost of medications, diagnostic tests, attendant fees, physiotherapy, personal medical appliances, blood, oxygen, etc. Transportation costs for the patient to or from the hospital as well as food costs were not included. It is clear that even if out-of-pocket costs are still a problem under the PMJAY programme, they are far lower than the average direct medical costs associated with a hospital stay in a public health institution, according to the NSSO 75th round report.

The primary aim of health insurance schemes sponsored by state and central governments is to reduce the financial burden associated with in-patient care and provide protection to vulnerable populations, thereby alleviating potential financial hardships. However, the current study found that not all the eligible households who utilized the PMJAY scheme were exempted from making out-of-pocket expenditures. Hence, the PMJAY scheme, which claims to be a 100% cashless scheme, did not turn out to be cashless altogether. The expenses related to medicines and diagnostics were substantial, requiring beneficiaries to bear the costs out of their own pockets. Additionally, the amount spent on ambulance services remained significantly high. The primary causes for these out-of-pocket payments can be attributed to beneficiaries' limited awareness of the complete health benefits package (HBP) offered by the PMJAY scheme, as well as the failure of hospitals to adequately inform and educate beneficiaries about the procedures and guidelines of PMJAY, resulting in non-compliance at times.

Limitations-

There were some limitations in this study that needs to be taken into account for the present study.

- This study was related to a single empaneled public health hospital in Uttarakhand. The findings of the study may not be generalized to other public or private health facilities where the PMJAY scheme is being implemented.
- In this study, the Out-of-pocket expenditure in the last year is taken and there may be chances of recall biases were high in the cases where the duration of treatment was prolonged.
- Sometimes it was difficult to get the details of the break-up of expenses, so the cumulative expense for certain subheads was used at places in the data for treatment.

CHAPTER-6

CONCLUSION

The objective of the present study is to assess the out-of-pocket expenditure experienced by patients in the field of cardiology who were admitted to a tertiary care facility in Uttarakhand under the PMJAY program. The study's main goals were to find out how many patients admitted to the Cardiology department who were using the hospital's AB-PMJAY plan were aware of it, how often they used it, and how much they paid out of pocket directly and indirectly.

Profile of the study population's sociodemographic

- The largest proportion of beneficiaries (n=80) falls within the age range of 45 to 59 years, indicating that the PMJAY scheme is primarily utilized by the middle-aged population. Additionally, 27% of the beneficiaries belong to the age group of 30 to 44 years. These findings highlight the predominant utilization of the scheme by individuals in the middle age brackets.
- The study states that about 63% of the beneficiaries were males and 37% of them were female. This shows that males are utilizing of the scheme more than females.
- Majority of the respondents (43.5%) were from Uttar Pradesh state followed by 38.5% who belong to the state of Uttar Pradesh. Of them, 68.5% of the respondents were from rural areas and 31.5% were from Urban areas.
- Around 73% of the beneficiaries are suffering from known chronic illnesses (n=147), 15% of them have no history of any chronic illnesses in the recent past (n=30) whereas 11.5% of them do not know about their chronic illness status (n=23).
- It was discovered that the majority of respondents (38.5%) had a family size of 4 members in their families, followed by 24.5% of the respondents who had a family size of 5 members in their families. It was found that comparatively, the family size in rural areas is slightly higher than the family size in urban areas.
- The research found that a sizable number of the examined families (64%) had a monthly income of less Rs. 5,000 (n=128). Additionally, 11.5% of the families had a monthly income over Rs. 10,000, while 24.5% of the families made between Rs. 5,000 and Rs. 10,000.
- According to the research, 41.5% of the families had a monthly per capita income of less than Rs. 1,000. In addition, 38% of the families reported monthly per capita incomes of between Rs. 1,000 and Rs. 1,500.

Awareness of the PMJAY scheme among the study population

- About 77% of respondents showed understanding of the overall coverage amount provided by the programme for each family per year. They were aware that the scheme provides a maximum of 5,00,000 rupees per family per year.
- According to the report, 46.9% of respondents were aware that empanelled public and private hospitals are permitted to provide PMJAY scheme benefits. However, only hospitals with empanelled status are able to offer services under the programme, according to 53.1% of respondents.

Out of pocket expenditure at the current hospital

- The study revealed that none of them paid any amount for a doctor's consultation during their hospital stay and none of them paid any amount for bed charges during their hospital stay.
- The Majority of the patients (85%) did not pay any amount for diagnostic services under the scheme whereas 30 patients (15%) had to pay for the diagnostic test charges.
- During the study, it was found that nearly 22.5 percent (45 patients) of the people have paid for buying medicines. 19% of them (n=38) paid less than Rs. 2000 while few other patients paid more than Rs. 2000. The main reason for this is the non-availability of drugs in the pharmacy, patients bought some medicines from outside in case of emergency.
- The majority of the patients (70.5%) were accompanied by only one attendant, 14% of them (n=28) by two attendants, and 4% of them (n=8) by three attendants whereas 11.5% of the patients (n=23) were not accompanied by any attendant.
- The food for the patients was free of cost during the hospital stay but some patients had to spend some amount on a specific diet like fruits, and nutrient diet. Food for the attendants was not provided by the hospital. 78.8% of the attendants (n=158) had to spend less than Rs. 1000 whereas 9.7% of them (n=19) had to spend an amount between Rs. 1000 to Rs.2000.
- It was found that 75.6% of the attendants (n=242) did not spend any amount on accommodation during the hospital stay whereas 11.2% of them (n=36) and 1.6% of them (n=5) had to spend an amount less than Rs. 1000 and an amount between Rs. 1001 and Rs. 2000 respectively
- The study found that 39.1% of the patients (n=125) and 49.1% of the attendants (n=157) had no wage loss as they were students or housewives or not working. 32.2% of the patients (n=71) and 22.1% of the attendants (n=71) had a wage loss of Rs. 300 per day. 24% of the patients (n=77) and 17.2% of the attendants (n=55) had a wage loss between Rs. 301 to Rs. 500 per day. Around 4.7% of the patients (n=15) had a wage loss over Rs. 500 per day whereas none of the attendants had a wage loss above Rs. 500 per day.
- The Majority of the patients (n=84) borrowed some money from their friends or relatives, 54 patients spent amount from their wages/salaries, 47 patients utilized their savings while 10 of them had to mortgage some property and 5 of them had to sell their property to meet the expenses at the hospital.

Comparison of mean OOPE per visit in the last year with OOPE at the current health facility

- The study found that out of 200 patients, 27 patients were never admitted to any hospital in the last year, 40 patients were admitted once, 50 patients were admitted twice, 46 patients were admitted thrice, 23 patients were admitted four times, 14 patients were admitted five or more times in the last one year.
- During the study, it was found that none of the respondents had any OOPE on consultation fees and bed charges in the current health facility. It was seen that the mean OOPE at the current hospital on diagnostic charges and medicines charges is drastically decreased by

approximately ten-fold and almost halved in the case of blood transfusion when compared with the Mean OOPE per visit in the last year. It was observed that there is no significant change in the OOPE spent on ambulance services.

- The study revealed that there is no significant change in the indirect OOPE when the Mean Indirect OOPE at the current hospital and Mean OOPE per visit in one year is compared. On the contrary, it was seen that there is a slight increase in the mean OOPE at the current hospital on food, accommodation, transport, and also wage loss. The reason for the increase in indirect health expenditure in the current hospital may be because the majority of the respondents were from surrounding states and they had to travel a long distance, arrange for food and accommodation in Rishikesh, and also had a greater number of days of wage loss.
- The study concluded that 60% of the respondents were very satisfied followed by 25% of them (n=50) are satisfied with the scheme in terms of treatment and the benefits provided to them under the scheme whereas less than 1% of them (n=2) were very unsatisfied with the scheme. Around 10% of them (n=10) had a neutral opinion on the functioning of the scheme and the services provided to them under the scheme.

CHAPTER-7

RECOMMENDATIONS

Policy level

- Ayushman Mitra's contribution to the successful implementation of the programme at the hospital level is essential. Ayushman Mitra's empowerment is essential to ensuring effective hospital operations. It is advised that the SHA or NHA hire Ayushman Mitra if they have experience in clinical or hospital management, but make sure they are not employed by the hospital where they now work.
- The network of the empaneled hospitals in the tier-I and tier-II cities may be enhanced and some additional incentives may be given to motivate the hospitals in those cities to get empaneled under the scheme.
- The study found that a significant amount of out-of-pocket expenses is being spent on follow up investigations and purchasing medicines after the discharge of the patients. Under the scheme, there is no provision of follow up investigation and the medicines are given only till 15 days and in some cases even less due to the inadequate stocks of medicines in the hospital. Cardiac care needs proper follow up care and continuous medication for a longer duration. Hence, the provision for follow up packages and continued supply of medicines till the required duration may be ensured.
- The major portion of indirect OOPE is due to wage loss followed by transportation charges. Strategies may be developed to curb these by providing indemnity coverage to the patients under the scheme for the loss of wages by Direct Benefit Transfer to the patients as a part of Rs. 5,00,000 coverage per annum with a cap on the amount per day and a total number of days per annum for which the patients can be indemnified.
- The study found that a huge Out of Pocket Expenditure is being spent on ambulance services. Hence, the government may consider the linkage with National Ambulance Services with the PMJAY scheme to strengthen the referral linkage system.
- To compensate for the transportation charges, the beneficiaries may be paid some fixed amount per visit as a part of Rs. 5,00,000 coverage per annum to meet the transportation expenses like in other schemes like RSBY and Arogya Sri scheme in Andhra Pradesh and Telangana states.

The hospital's facility level

- The survey found that the majority of out-of-pocket expenses went towards prescription drug costs and diagnostic test costs. The reason for the OOPE on medicines is due to the non-availability of the prescribed medicines in the pharmacy attached to the hospital. Hence, the hospitals may ensure the proper availability of the drugs in the pharmacy. The probable reason for OOPE on diagnostics may be for the diagnostic evaluation of the patient for confirmation of the diagnosis to match them with codes under PMJAY. So, the hospital may appoint a dedicated medical coordinator for PMJAY patients to screen the PMJAY patients and facilitate consultations with

concerned specialists to perform rationalized investigations only to confirm the diagnosis.

- It was observed that beneficiaries were aware of the scheme in general but lacked awareness of in-depth features of the scheme like procedures included in the scheme, specialties covered, and services covered under the Health Benefits Packages (HBPs). To fill the gap, hospitals can introduce patient-level efforts to generate awareness about the PMJAY scheme to make informed choices through increased awareness. Informed patients will ensure fewer patient-provider disputes.

CHAPTER-8

REFERENCES

1. World Health Organization. The world health report: health systems financing: the path to universal coverage. 2010.
2. Ottersen T, Norheim OF; World Health Organization Consultative Group on Equity and Universal Health Coverage. Making fair choices on the path to universal health coverage. *Bull World Health Organ*. 2014 Jun 1;92(6):389.
3. Government of India, Ministry of Health and Family Welfare. NCMH: Report of the National Commission on Macroeconomics and Health. 2005.
4. Government of India, Ministry of Statistics and Programme Implementation. NSSO 75th Round (July 2017—June 2018): Key Indicators of Social Consumption in India Health. 2019.
5. Van Doorslaer E, O'Donnell O, Rannan-Eliya RP, Somanathan A, Adhikari SR, Garg CC, et al. Effect of payments for health care on poverty estimates in 11 countries in Asia: an analysis of household survey data. *The Lancet*. 2006; 368(9544): 1357–1364.
6. Garg CC, Karan AK. Reducing out-of-pocket expenditures to reduce poverty: a disaggregated analysis at rural-urban and state level in India. *Health Policy and planning*. 2009; 24(2): 116–128. pmid:19095685
7. Berman P, Ahuja R, Bhandari L. The impoverishing effect of healthcare payments in India: New methodology and findings. *Economic & Political Weekly*. 2010;45(16): 65–71.
8. Rashtriya Swasthya Bima Yojana. Available from: <http://www.rsby.gov.in/>.
9. Bhojani U, Thriveni B, Devadasan R, Munegowda C, Devadasan N, Kolsteren P, Criel B. Out-of-pocket healthcare payments on chronic conditions impoverish urban poor in Bangalore, India. *BMC Public Health*, 2012 Nov 16; 12: 990.
10. <https://niti.gov.in/catastrophic-health-spending-and-impoverishment-householdswile-seeking-hospitalized-treatment> .
11. Official website of PMJAY <https://pmjay.gov.in/>.
12. Araujo EC, Coelho BDP. Measuring Financial Protection in Health in Brazil: Catastrophic and Poverty Impacts of Health Care Payments Using the Latest National Household Consumption Survey. *Health Systems & Reform*. 2021 Jul 1;7(2):e1957537
13. Ataguba JE. The Impact of Financing Health Services on Income Inequality in an Unequal Society: The Case of South Africa. *Appl Health Econ Health Policy*. 2021 Sep;19(5):721–33.
14. Tangcharoensathien V, Tisayaticom K, Suphanchaimat R, Vongmongkol V, Viriyathorn S, Limwattananon S. Financial risk protection of Thailand's universal health coverage: results from series of national household surveys between 1996 and 2015. *International Journal for Equity in Health*. 2020 Sep 21;19(1):163.
15. Tao W, Zeng Z, Dang H, Li P, Chuong L, Yue D, et al. Towards universal health coverage: achievements and challenges of 10 years of healthcare reform in China. *BMJ Global Health*. 2020 Mar 1;5(3):e002087.

16. Yuan B, Balabanova D, Gao J, Tang S, Guo Y. Strengthening public health services to achieve universal health coverage in China. *BMJ*. 2019 Jun 21;365:l2358.
17. Liao R, Liu Y, Peng S, Feng XL. Factors affecting health care users' first contact with primary health care facilities in north eastern China, 2008–2018. *BMJ Glob Health*. 2021 Feb 17;6(2):e003907.
18. Callander EJ, Fox H, Lindsay D. Out-of-pocket healthcare expenditure in Australia: trends, inequalities and the impact on household living standards in a high-income country with a universal health care system. *Health Economics Review*. 2019 Mar 11;9(1):10.
19. Gotanda H, Jha AK, Kominski GF, Tsugawa Y. Out-of-pocket spending and financial burden among low income adults after Medicaid expansions in the United States: quasi-experimental difference-in-difference study. *BMJ*. 2020 Feb 5;368:m40.
20. Kominski GF, Nonzee NJ, Sorensen A. The Affordable Care Act's Impacts on Access to Insurance and Health Care for Low-Income Populations. *Annu Rev Public Health*. 2017 Mar 20;38:489–505.
21. Sommers BD, Gawande AA, Baicker K. Health Insurance Coverage and Health - What the Recent Evidence Tells Us. *N Engl J Med*. 2017 Aug 10;377(6):586–93.
22. Miller S, Wherry LR. Health and Access to Care during the First 2 Years of the ACA Medicaid Expansions. *N Engl J Med*. 2017 Mar 9;376(10):947–56.
23. Wherry LR, Miller S. Early Coverage, Access, Utilization, and Health Effects of the Affordable Care Act Medicaid Expansions: A Quasi-Experimental Study. *Ann Intern Med*. 2016 Jun 21;164(12):795–803.
24. Okoroh J, Essoun S, Seddoh A, Harris H, Weissman JS, Dsane-Selby L, et al. Evaluating the impact of the national health insurance scheme of Ghana on out of pocket expenditures: a systematic review. *BMC Health Services Research*. 2018 Jun 7;18(1):426.
25. International Labour Organization . Social Protection Platform [Internet]. [cited 2022 Feb 8]. Available from: <https://www.socialprotection.org/gimi/gess/ShowRessource.action?ressource.ressourceId=11967>
26. Palladino R, Lee JT, Hone T, Filippidis FT, Millett C. The Great Recession And Increased Cost Sharing In European Health Systems. *Health Affairs*. 2016 Jul 1;35(7):1204–13.
27. Baird K. High Out-of-Pocket Medical Spending among the Poor and Elderly in Nine Developed Countries. *Health Serv Res*. 2016 Aug;51(4):1467–88.
28. Reshmi B, Unnikrishnan B, Parsekar SS, Rajwar E, Vijayamma R, Venkatesh BT. Health insurance awareness and its uptake in India: a systematic review protocol. *BMJ Open*. 2021 Apr 15;11(4):e043122
29. Khan A, Yattoo G, Mir M. Impact of Ayushman Bharat Scheme on the Prevalence of Distress Financing and Catastrophic Health Expenditure Among Patients Attending a Tertiary Care Teaching Hospital. 2021 Mar 1;1–05.

30. Joseph J, Sankar D H, Nambiar D. Empanelment of health care facilities under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY) in India. *PLoS One*. 2021 May 27;16(5):e0251814. doi: 10.1371/journal.pone.0251814. PMID: 34043664; PMCID: PMC8158976.
31. Rajiv M, George LS, Mainu CR, Raj A, Aravind MS. Facilitators and Barriers for Pradhan Mantri Jan Arogya Yojana Empanelment by Private Hospitals in Kerala: A Qualitative Analysis. *Ann Comm Health*. 2021 Apr 1;9(1):157–62.
32. Dash U, Muraleedharan V, Rajesh M. Accessing Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana (PM-JAY): A case study of three states (Bihar, Haryana and Tamil Nadu) [Internet]. Chennai; Available from: https://pmjay.gov.in/sites/default/files/2020-06/WP_IITM_study_1.pdf
33. Reddy NKK, Bahurupi Y, Kishore S, Singh M, Aggarwal P, Jain B. Awareness and readiness of health care workers in implementing Pradhan Mantri Jan Arogya Yojana in a tertiary care hospital at Rishikesh. *Nepal J Epidemiol*. 2020 Jun 30;10(2):865870. doi: 10.3126/nje.v10i2.27941. PMID: 32874700; PMCID: PMC7423403.
34. V.Pugazhenth. A study on awareness on ab-pmjay for treatment of diseases with special reference to cancer care in thanjavur district of tamil nadu. *Epra*. 2021 feb 25;202–6.
35. Garg S, Bebartha KK, Tripathi N. Performance of India's national publicly funded health insurance scheme, Pradhan Mantri Jan Arogya Yojana (PMJAY), in improving access and financial protection for hospital care: findings from household surveys in Chhattisgarh state. *BMC Public Health*. 2020 Jun 16;20(1):949.
36. Saxena A, Trivedi M, Shroff ZC, Sharma M. Improving hospital-based processes for effective implementation of Government funded health insurance schemes: evidence from early implementation of PM-JAY in India. *BMC Health Services Research*. 2022 Jan 15;22(1):73.
37. Satapathy SP, Karmee N, Satapathy DM, Tripathy RM. Out of pocket expenditure among Rashtriya Swasthya Bima Yojana beneficiary and non-beneficiary patients admitted to a tertiary care centre, Berhampur, India: a comparative study. *Int J Adv Med*. 2019 Mar 25;6(2):376.
38. Ranjan A, Dixit P, Mukhopadhyay I, Thiagarajan S. Effectiveness of government strategies for financial protection against costs of hospitalization Care in India. *BMC Public Health*. 2018 Apr 16;18(1):501.
39. Prinja S, Chauhan AS, Karan A, Kaur G, Kumar R. Impact of Publicly Financed Health Insurance Schemes on Healthcare Utilization and Financial Risk Protection in India: A Systematic Review. Xia C-Y, editor. *PLoS ONE*. 2017 Feb 2;12(2):e0170996.
40. Sinha RK. Impact of Publicly Financed Health Insurance Scheme (Rashtriya Swasthya Bima Yojana) from Equity and Efficiency Perspectives. *Vikalpa*. 2018 Dec 1;43(4):191–206.
41. Kumar P, Naib P, Chandrashekar S, Smith O, Chhabra S. Trends in cardiac care utilization under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, India. 2022.
42. Thakur H. (2016) Study of Awareness, Enrollment, and Utilization of Rashtriya Swasthya Bima Yojana (National Health Insurance Scheme) in Maharashtra, India. *Front. Public Health* 3:282. doi: 10.3389/fpubh.2015.00282

43. Ambade M, Sarwal R, Mor N, Kim R, Subramanian SV. Components of Out-of-Pocket Expenditure and Their Relative Contribution to Economic Burden of Diseases in India. *JAMA Netw Open*. 2022;5(5):e2210040. doi:10.1001/jamanetworkopen.2022.10040
44. Reshmi B, Unnikrishnan B, Rajwar E, et al. Impact of public-funded health insurances in India on health care utilisation and financial risk protection: a systematic review *BMJ Open* 2021;11:e050077. doi: 10.1136/bmjopen-2021-050077
45. Kumar, Dewesh & Kumar, Dilip & Kashyap, Vivek & Gupta, Arpit & Mandal, Khusboo & Vatsana, Nimisha. (2019). OUT OF POCKET EXPENDITURES IN A TERTIARY CARE HOSPITAL OF JHARKHAND, INDIA.
46. Satapathy SP, Karmee N, Satapathy DM, Tripathy RM. Out of pocket expenditure among RSBY beneficiary and non beneficiary patients admitted to a tertiary care centre, Berhampur: a comparative study. *Int J Adv Med* 2019;6:376-381
47. Sinha RK. Impact of Publicly Financed Health Insurance Scheme (Rashtriya Swasthya Bima Yojana) from Equity and Efficiency Perspectives. *Vikalpa*. 2018;43(4):191-206. doi:10.1177/0256090918804390
48. Karan A, Yip W, Mahal A. Extending health insurance to the poor in India: An impact evaluation of Rashtriya Swasthya Bima Yojana on out of pocket spending for healthcare. *Soc Sci Med*. 2017;181:83-92. doi:10.1016/j.socscimed.2017.03.053
49. Prinja S, Chauhan AS, Karan A, Kaur G, Kumar R. Impact of Publicly Financed Health Insurance Schemes on Healthcare Utilization and Financial Risk Protection in India: A Systematic Review. *PLoS One*. 2017 Feb 2;12(2):e0170996. doi: 10.1371/journal.pone.0170996. PMID: 28151946; PMCID: PMC5289511.
50. Patel J, Shah J, Agarwal M, Kedia G. Post utilization survey of RSBY beneficiaries in civil hospital, Ahmedabad: A cross-sectional study. *International Journal of Medical Science and Public Health*. 2013 Jan 1;2:1073.
51. Kumar P, Naib P, Chandrashekar S, Smith O, Chhabra S. Trends in cardiac care utilization under Ayushman Bharat Pradhan Mantri Jan Arogya Yojana, India. *Ann Clin Cardiol* [Internet]. 2021 [cited 2022 Sep 10];3(2):63. Available from: <https://www.onlineacc.org/article.asp?issn=26666979;year=2021;volume=3;issue=2;page=63;epage=68;aulast=Naib;type=0>

ANNEXURE-1

Study Tools

Form of Participant Informed Consent

1. I attest that I have carefully read, comprehended, and have the chance to ask questions about the research detailed on the participant information page.
2. I recognise that I am free to leave the study at any time without having to give a justification or deal with any negative consequences.
3. I am aware that any publishing will retain my identity and that my data will be kept private.
4. I consent to participating in the study.

Name

Signature

Date