A Predictive Analysis of Inflation in Medical Sector & Its Impact on Indian Households

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Abstract

The increasing health expenditure in India has become a critical financial strain on household budgets, and the mainstream literature has paid attention mainly to out-of-pocket (OOP) expenditure and catastrophic health expenditure, without attempting to predict and quantify these outcomes in terms of factors that influence them. The study looks at how the medical sector inflation affect the financial well-being of Indian households and the moderating effect of health insurance and household income. Structured 5-point Likert scale questionnaire was used to collect the primary data and 90 responses were collected with the help of convenience sampling, all of which were fully completed and retained for analysis. The data has been analysed using the usual statistics namely Cronbach's alpha reliability test, One way ANOVA test, linear regression and Chi-square test of independence as per output of SPSS/Excel. The results show that perceived medical inflation is a significant positive predictor of out of pocket expenditure on health care ($R^2 = .380$, $F(1,88) = 53.92$, $p < .001$), which is a significant positive predictor of the financial burden ($R^2 = .374$, $F(2,87) = 26.04$, $p < .001$) of the household. The effect of perceived medical inflation on financial burden is mediated by this out of pocket channel. There was a significant relationship between household income and OOPE ($p < .01$) and financial burden ($p < .01$); however, there was no significant relationship between financial burden and health insurance status ($p = .061$) or between level of OOPE and health insurance status ($p = .554$). The findings suggest that medical inflation is linked to OOP expenses and financial stress in a reliable way, as well as that current insurance does not completely protect households from the financial impact of medical inflation and as far as income is concerned that is still a significant determinant in household vulnerability to medical inflation. The paper concludes with recommendations for policy design of insurance products and policy implications for household finance planning and future directions for predictive research.

Keywords: Medical sector inflation, Out-of-pocket Healthcare expenditure, Household financial burden, Financial Well-being, Health insurance, Predictive Analysis, Indian Households.

1. Introduction

Medical expenses are a basic requirement of any family, but with the increase in medical bills, it is a major financial problem for people in India. Medical inflation is the gradual rise in the cost of medicines, tests, consultations, admission and treatment. The increasing share of household income being spent on health care is reducing the savings of households, and also limiting their ability to spend money on rent, food, education, and other necessities. This is especially hard on low income families and on households where members are elderly or ill and chronically disabled.

An important characteristic of the healthcare financing in India is its high reliance on OOP spending, which means that households have to directly cover healthcare costs without suitable insurance or institutional support. The authors of Mondal et al. (2014) showed that OOP payments for health services can have significant financial consequences for families and may in many cases create a poverty trap. They studied households in West Bengal and noted that the cost

of hospitalization was a disproportionately large part of the total household expenditure, and that the private hospitals cost a lot more than the government hospitals.

This financial effect is also reflected on a national level. Sriram and Albadrani (2022), using data from the National Sample Survey 2014 and 2018, studied catastrophic health expenditure (CHE) which was defined as health expenditure exceeding 10% of household consumption expenditure. During this period, they discovered the prevalence of CHE increased from 10.94% to 16.51%, which were more likely to be found in poor households and in households with elderly members and young children. The results of this study are in line with the expected impacts of health expenditure on a household's financial situation, beyond the expenditure itself.

The issue compounds when inflation reduces the healthcare services a family can afford with the same dollar income, as families have to pay more for the same healthcare services. Ahmad, Mehnaz and Ahmed (2026) studied this combined impact in India for below-poverty-line households, using the Consumer Price Index for Industrial Workers (CPI-IW) in combination with OOP expenditure, catastrophic spending, avoidance of seeking healthcare and distress financing. Their analyses showed that there is a significant relationship between inflation and increased financial vulnerability of households in the economically weaker population groups, which explicitly highlights the medical inflation as a healthcare-costs problem and a household finance problem.

Health insurance is an additional factor that contributes to this vulnerability. Using the National Sample Survey (2004-2018) data, Mishra and Goli (2026) concluded that insurance coverage had an average effect of reducing the probability of CHW by 4.9 percentage points, with significant differences in effects based on income, region, and type of illness. Therefore, although insurance creates some financial protection, the financial burden of healthcare costs remains highly dependent on socioeconomic status of households.

While there has been some research on OOP expenditure, catastrophic expenditure, inflation and insurance separately, there are few studies that synthesize all these three factors into a predictive framework. Predictive analysis can help uncover patterns between increases in medical expenses and household economic outcomes, and can help predict future vulnerability.

This study, therefore, investigates how medical-sector inflation has affected household financial well-being in India and how household financial well-being is affected by medical-sector inflation, particularly with respect to OOP spending, saving, debt, financial stress, and the moderating influence of health insurance, and focuses on what makes households most vulnerable to the impact of medical-sector inflation.

Review of Literature

According to the study by Sri Ram & Albadrani (2022), the incidence of catastrophic health expenditure rose in India, especially for vulnerable families and among those that seek private care. The study, but, omitted to examine the issue of medical inflation in more recent years, and its future economic consequences, only found that health insurance decreases catastrophic expenditure.

Arvinth Ram et al. (2019) in their study have revealed that the households of diabetics and hypertensives have to have significant out-of-pocket medical costs which is a significant proportion of the catastrophic out of pocket medical expenditure. The results of the study indicated that government health care facilities and health insurance decreased the financial burden on households.

Joshi et al. (2013) obtained that households with diabetes and hypertension have high OOP expenditure and utilization of health care. This study emphasizes that those patients who use private health care services heavily incur a higher financial burden.

Community health insurance schemes led to better access to health care and financial protection for poor households, by providing cashless services, and by lowering financial barriers, as identified by Michielsen, Criel, Devadasan, Soors,

Wouters and Meulemans (2011). The study also underscored the importance of empowering patients and engaging the community to enhance healthcare service quality.

M Mondal, L Lucas, P Peters and Kanjilal (2014) reported that chronic illness and private health care use had significant effect on the risk of catastrophic health expenditure in West Bengal households. The research also revealed that the high medical costs forced the households to implement coping mechanisms such as taking loans, selling off assets, cutting back on food and education costs.

The study of Choudhary and Koamraiah (2025) revealed that the government health insurance schemes covered the majority of insured households in Bihar, but coverage was still low among the poorest households. The study highlighted some factors that affected the uptake of health insurance, such as wealth, household characteristics, residence, and dependency levels, but did not explore this relationship with financial hardship.

The study by Kalke, Mundhe and Dubey (2021) revealed that socio-economic, demographic and residential factors had significant associations with out-of-pocket healthcare spending, with medicines accounting for the highest spending. Overall, the study revealed that rural families and urban slum families are the most vulnerable with regard to OOPE, with the latter facing higher financial burden.

Kastor and Mohanty (2018) reported that the hospitalization incurred significant OPE and a significant proportion of households suffered catastrophic health expenditure. The expenses were especially high for cancer and heart disease, and the cost of a private hospital was much higher than that of a public hospital.

Yadav et al. (2021) reported that catastrophic expenditure and impoverishment was high, particularly in the treatment of cancer and other severe diseases due to out-of-pocket expense on health care. The study also revealed that private health care is more expensive than public health care.

The study by Ranjan, Kumar and Yadav (2025) revealed that public health expenditure in rural Assam was highly pro-poor while out-of-pocket expenditure levels were high for the poorer households. It also revealed that the quality of services, long queues at clinics and absence of doctors and medicines in public health services also affected the use of these facilities.

Mohanty et al. (2018) had observed that there are large geographical and socioeconomic differences in health expenditure on the households and catastrophic health expenditure in India. The study revealed that the differences in health expenditure were largely attributable to the household level factors, with state level factors playing a significant role in catastrophic health expenditure.

Mishra and Goli (2026) investigated the impact of public and private health insurance on catastrophic health expenditure in India in the NSS data from 2004–2018, employing OLS, Probit and IV methods. They found insurance lowered the chances of a catastrophic expenditure by 4.9 percentage points, but poor, rural and those households with chronic disease costs were still less well financed, suggesting inequities in financial protection and a lack of long-term coverage.

Garg and Karan (2009) studied the impact of OOP health expenses on household expenditure and poverty at the aggregate level, by income and by rural–urban areas in India. They discovered that OOP health expenditures made tens of millions of people in India poor, shedding light on the economic burden of health expenses on Indian families.

Raza et al (2013) studied a group of selfhelp groups and their experience seeking in health care facilities in rural areas of Bihar and Uttar Pradesh. Most wanted to be cared for in private facilities and most of those were informal providers with proximity and socioeconomic status having significant impact on the provider choice made, although the cost of healthcare was relatively less important.

Using NSSO data, Sangar, Dutt and Thakur analyzed the burden of out-of-pocket (OOP) spending on health and its effect on poverty in India. They found that the outpatient care put a huge financial strain on the household, especially for the rural, scheduled caste and economically weaker households.

Thakur and Faizan analysed the poverty reduction due to the health spending in India based on NSSO data from 1999–00 to 2011–12. They concluded that costs of outpatient care was a significant factor in poverty, particularly in the case of Muslim households, Scheduled Caste and in casual labourers.

Rajasulochana et al (2023) analyzed OOP for the treatment of hypertension for inpatient and outpatient services based on NSSO 2017-18. They discovered that the cost of private care and hospitalization was significantly higher, and in the case of the poor and the rural, they incurred higher catastrophic expenditure.

Swetha, Shobha and Sriram studied catastrophic health expenditure of households with and without chronic diseases in Bangalore. They discovered that poorer households and those wasting money on chronic illness like diabetes and hypertension were at greater risk of catastrophic expenditure.

Mishra and Sa studied how public health spending, economic development and infant mortality are connected in Odisha and Bihar between 1991-2023. They found that both economic growth and public health expenditure were not statistically significant in either state, except for infant mortality in Odisha.

Selvaraj, Farooqui and Karan studied the financial impact of OOP in India related to medicines. They discovered that medicines made up a significant proportion of OOP costs and were a driver of poverty; cardiovascular conditions and cancer had the greatest burden.

Mehnaz and Ahmed investigated how inflation affected financial strain on below-poverty line families on health care in 21. They determined that an increase in health care costs led to an increase in catastrophic expenditure, impoverishment, distress financing, and the risk of the household forgoing health care.

Padmadas, Leone and James analyzed the economic impact of maternal health care expenditure on India based on the nationally representative NSSO data. They concluded that this cost was significant greater in private facilities than in public facilities and that there were also significant indirect costs to households.

Kumar discussed the evolution of the healthcare ecosystem in India, including public financing, insurance, infrastructure, and digital health, as well as the growth of the private sector. Some of the key challenges identified in the study were rural-urban disparities, lack of health care workers, and high health care costs.

All determinants of OOP healthcare expenditure in India were systematically reviewed by Kamath, Maliyekkal, Anbu Raj, Varshini, Brand, Sirur, Singh, Prabhu and Kamath. They found medicines, private health care, non-communicable diseases, rural living and low socioeconomic status to be key drivers of financial burden and distress financing.

Research Gap

The literature reviewed is primarily oriented on out-of-pocket (OOP) health expenditure, catastrophic health expenditure (CHE), household vulnerability and health insurance. Using nationally representative data, Sri Ram and Albadrani analyzed CHE and identified demographic, socioeconomic and healthcare utilization factors that had an association with financial burden. Using the framework of household coping mechanisms, Mondal et al. focused on the impact of higher expenditure on health care items on household coping mechanisms, including the use of savings, borrowed funds and reduced expenditure, and selling assets. Yet, these studies do not undertake a forecasting exercise of how medical inflation may affect the financial situation of a household, they are only studies of what is already happening if medical inflation does occur. Hence, there is a need for a study on the medical cost inflation along with household factors like income, insurance, saving, debt, financial stress, and using predictive analysis to know the impact of medical inflation on the financial prospects of the Indian households.

2. Problem Statement

Medical inflation is taking a major problem in the minds of scholars, society, businesses and government in India. The big issue for scholars is that there is less research on predicting increasing health care costs and the impact that such rising health care expenses can have on the financial health of the household. The studies available are primarily on

OOP expenditure and catastrophic health expenditure as opposed to predictive assessment. Rising medicine, diagnostic, and treatment expenses can lead to greater financial burden, lower savings, and borrowings or cut down on basic spending among households in society. For businesses, their health care costs can lead to employee financial worry, a reduction in productivity, and strain on health insurance and employee-benefit budgets. For the government, rising medical expenditures can pose problems in providing affordable health care, in limiting catastrophic expenditures, and in formulating health-insurance and public-health policies. Thus, this study is an attempt to investigate medical inflation and the financial impact that it may have on Indian households in the future.

3. Research Questions

1. What are the primary determinants of medical inflation and health expenditure in Indian households?

2. What is the impact of the growing medical inflation on the financial condition of the Indian household in terms of savings, borrowing, financial strain and household expenditure?

3. How much does health insurance help to relieve the financial impact of rising health care expenses on Indian families?

4. Are financial indicators of medical inflation related to household characteristics such as income, family size, insurance coverage and medical expenditure?

4. Research Objectives

1. To study the trend and growth of medical inflation in India specifically the rise in the price of medicines, diagnostic, hospitalization and treatment costs.

2. To investigate how inflation in the medical sector affects OOPHE by the household.

3. To measure the linkage between health care expenditure out-of-pocket and financial status of households in India with emphasis on household indebtedness, financial stress and the decrease in household savings.

4. To understand role of health insurance coverage in reducing financial burden of increasing healthcare cost – insured and uninsured households, public/private insurance, utilization of claims.

5. To find the major factors that affect the financial effect of medical-sector inflation on Indian households like insurance cover, household income and medical expenditure.

6. To use predictive analysis techniques to forecast the future inflation of medical sector and its financial implications on the household of India.

5. Research Hypothesis

Null Hypothesis (H0_1): There is no has significant effect of inflation in medical sector on out-of-pocket costs of healthcare for Indian households.

Alternate Hypothesis (H1_1): There is a significant positive effect of inflation in medical sector on out-of-pocket costs of healthcare for Indian households.

Null Hypothesis (H0_2): There is no crucial association between the out-of-pocket costs of healthcare and economic welfare of Indian Households.

Alternate Hypothesis (H1_2): There is a crucial negative association between the out-of-pocket cost's healthcare and economical welfare of Indian Households.

Null Hypothesis (H0_3): The outcome of healthcare costs on the economy of Indian households is not profoundly influenced by health insurance.

Alternate Hypothesis (H1_3): The outcome of healthcare costs on the economy of Indian households is profoundly influenced by health insurance.

Null Hypothesis (H0_4): No considerable difference in the cost of out-of-pocket expenditure on healthcare among insured and uninsured Indian families.

Alternate Hypothesis (H1_4): Considerable difference in the cost of out-of-pocket expenditure on healthcare among insured and uninsured Indian families.

Null Hypothesis (H0_5): There is no substantial correlation between Household income and the financial impact of inflation in medical sector on Indian households.

Alternate Hypothesis (H1_5): There is no substantial correlation between Household income and the financial impact of inflation in medical sector on Indian households.

Null Hypothesis (H0_6): Inflation in medical sector has no symbolic effect on the financial stability of Indian households.

Alternate Hypothesis (H1_6): Inflation in medical sector has a symbolic effect on the financial stability of Indian households.

6. Conceptual Framework

The theoretical underpinning of this research has focused on the four measurable constructs derived from this survey instrument: Medical Inflation Perception (MIP) — the perceived increase in the price of medicines, diagnostics and hospitalization; Out-of-Pocket Healthcare Expenditure (OOPE) — how much the increase has pushed up direct household health spending and budget allocation; Household Financial Burden (FB) — the impacts of such increases on debt, savings, financial stress and borrowings/asset sales, and Health Insurance Effectiveness (INS) — the perceived effectiveness of health insurance in absorbing this burden. Demographic moderators (household income and family size) are used to explain these relationships.

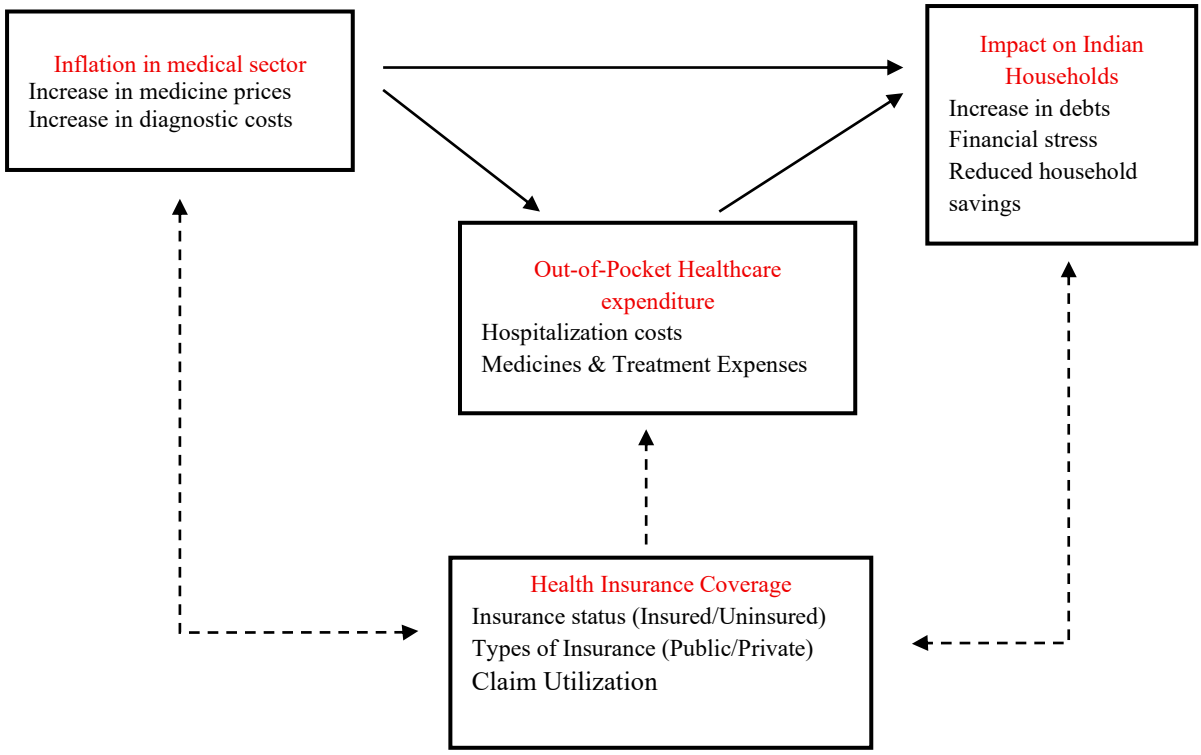


Figure 1: Conceptual Model

The framework suggests that the impact of rising medical inflation (MIP) on household financial well-being is indirect as it contributes to increased out-of-pocket healthcare expenditure (OOPE) and in turn to increased financial burden (FB) which can be seen as reduced savings, higher debt, borrowing and financial stress. It is hypothesized that this chain will be moderated by health insurance coverage and household income: the financial-burden impact will be less for a given magnitude of medical inflation or out-of-pocket expenses for a household with adequate insurance coverage and/or high income than for a household without insurance coverage or low income. This framework will inform the six hypotheses that will be tested in Section 9.

7. Research Methodology

7.1 Research Design

This study is designed using quantitative method, descriptive cum analytical model with secondary data analysis. The primary data used for the study was gathered by means of a structured, self-administered questionnaire, and the researchers were able to test the relationships mentioned in the conceptual framework and hypotheses statistically. The process of taking samples and gathering data.Taking samples and collecting data.

Convenience sampling was employed where respondents were those who were accessible and willing to participate in the study. Participants responded to an online questionnaire using structured Google Forms. Incomplete and duplicate responses were removed and 90 completed responses retained and analysed in this paper. The respondents were mainly students (52.2%) and salaried employees (45.6%) and a small percentage of self-employed/business (2.2%) representing groups of different ages, income levels and family sizes as described in Section 9.1.

7.2 Instrument Development

This questionnaire was organized according to the constructs that were identified in the conceptual framework: Medical Inflation Perception, Out-of-Pocket Healthcare Expenditure, Household Financial Burden, Health Insurance Effectiveness and related questions concerning influence of household income and future perspective on medical inflation. Constructs were measured on a 5 point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The

questionnaire also obtained demographic and screening data: age, sex, occupation, monthly household income, family size, health insurance (insured/not insured), and, for those who were insured, the type of health insurance.

7.3 Reliability of the Instrument

Internal consistency of each multi-item construct was checked prior to the hypothesis test with Cronbach's alpha. Table 1 reveals that all the core constructs measured in the hypothesis testing procedure have an internal reliability ranging from good to excellent (0.70).

Table 1: Reliability Statistics

Construct	No. of Items	Cronbach's Alpha
Medical Inflation Perception (MIP)	3	0.883
Out-of-Pocket Expenditure (OOPE)	3	0.750
Household Financial Burden (FB)	5	0.876
Health Insurance Effectiveness (INS)	4	0.808
Future Outlook toward Medical Inflation (FO)	3	0.725

Source: Author's own calculation

7.4 Analytical Techniques

A composite score was created for each construct by averaging the Likert items of that construct. Then the following statistical procedures were applied to test the study hypotheses, and were consistent with the usual output style used in SPSS/Excel.

- Chi-square test of independence — this was used to test the association between categorical variables: a three-level (Low/Moderate/High) financial-impact category based on the Financial Burden composite score and the three categories of household income; and health insurance status and the same three financial-impact categories.

- One-way ANOVA — to assess differences in mean OPE and mean financial burden among groups by health insurance status (insured vs. uninsured) and among groups by household income.

- Linear regression (simple and multiple) — to test the predictive relationships between Medical Inflation Perception, Out-of-Pocket Expenditure, Health Insurance status and Financial Burden as proposed in the conceptual framework.

The significance level was set at $\alpha = 0.05$ with the values of 0.05 to 0.10 reported as marginally significant as in the conventional practice of exploratory survey based research with moderate sample size.

8. Data Analysis & Interpretation

8.1 Demographic Profile of Respondents (N = 90)

Variable	Category	Frequency	Percent
Age	Below 18	3	3.3%
	18–27	46	51.1%
	27–36	16	17.8%
	37–46	12	13.3%
	47–60	13	14.4%
Gender	Female	56	62.2%
	Male	34	37.8%
Occupation	Student	47	52.2%
	Salaried	41	45.6%
	Self-employed/Business	2	2.2%
Monthly Household Income	Below ₹25,000	54	60.0%
	₹25,001 – 50,000	12	13.3%
	₹50,001 – 1,00,000	6	6.7%
	Above ₹1,00,000	18	20.0%
Family Size	1–2 members	2	2.2%
	3–4 members	68	75.6%
	5–6 members	17	18.9%

	More than 6	3	3.3%
Health Insurance Status	Insured	48	53.3%
	Not Insured	42	46.7%

Source: Author's own calculation

The convenience sample was heavily skewed towards young people, with 68.9% having been born before 1970, and towards the lower income end of the population, with 60% saying they earn less than ₹25,000 per month in their households. The insured/uninsured comparisons below are reasonably balanced; just 53.3% of respondents said they were covered by health insurance.

8.2 Descriptive Statistics of Study Constructs

Table 2: Descriptive Statistics (5- point scale)

Construct	Mean	Std. Deviation	Min	Max
Medical Inflation Perception (MIP)	4.163	0.757	2.00	5.00
Out-of-Pocket Expenditure (OOPE)	3.967	0.614	2.33	5.00
Household Financial Burden (FB)	3.756	0.707	2.20	5.00
Health Insurance Effectiveness (INS)	3.467	0.701	2.50	5.00

Source: Author's own calculation

The average scores in perceived medical inflation (M = 4.16) and out-of-pocket expenditure increase (M = 3.97) were both high. The mean Financial Burden score (M = 3.76) shows that the sample experienced a moderate to high level of financial burden, with the comparatively lower mean for Health Insurance Effectiveness (M = 3.47) indicating that respondents perceived the coverage they currently have as only partially effective.

8.3 Chi-Square Test of Association

8.3.1 Household Income and Financial Impact Category (*H5*)

The Financial Burden composite score was recoded and cross tabulated by household income category into three groups: Low (≤2.67), Moderate (2.68–3.67), and High (>3.67).

Table 3: Household Income × Financial Impact Category (Observed Frequencies):

Income Category	Low	Moderate	High	Total
Below ₹25,000	0	16	38	54
₹25,001 – 50,000	0	3	9	12
₹50,001 – 1,00,000	3	3	0	6
Above ₹1,00,000	3	9	6	18

Source: Author's own calculation

χ^2 (6, N = 90) = 33.628, p < .001. The significance of the test means that the two factors (household income category and financial impact of medical inflation) are not independent; that is, lower income groups have a higher proportion of households in the "High" financial-impact category. The following points should be noted: Several cells in this table had an expected frequency of less than 5, as the size of the middle-income categories was small, so the result should be interpreted with caution and, ideally, with a larger and more evenly distributed sample size or Fisher's exact test in future studies.

8.3.2 is a Health Insurance Status and Financial Impact Category for H3/H4.

Table 4: Frequencies: Health Insurance Status × Financial Impact Category (Observed Frequencies)

Insurance Status	Low	Moderate	High	Total
Not Insured	0	10	32	42
Insured	6	21	21	48

Source: Author's own calculation

χ^2 (2, N = 90) = 11.839, p = .003. The association is significant: there is a higher proportion of households in the Low/Moderate financial-impact categories for participants reporting insurance, and a higher proportion of uninsured households in the High financial-impact category (76% of uninsured respondents compared with 44% of insured respondents fall in the High financial-impact category), suggesting a protective role for insurance coverage but not a complete protective role.

8.4 One-Way ANOVA

Table 5: ANOVA Summary

Dependent Variable	Grouping Factor	F	df	p-value	Result
OOPE	Insurance status (Yes/No)	0.353	1, 88	.554	Not significant
Financial Burden	Insurance status (Yes/No)	3.612	1, 88	.061	Marginally significant
OOPE	Household income (4 groups)	4.158	3, 86	.008	Significant
Financial Burden	Household income (4 groups)	11.822	3, 86	<.001	Significant

Source: Author's own calculation

The ANOVA results indicate that there is no significant difference between the two groups of respondents (insured vs uninsured) with regard to perceived out of pocket expenditure (H4 is not supported at the 5% level), meaning that insurance coverage is insufficient to explain differences in the perceived increase in health expenditure. Financial Burden is slightly, but not significantly, lower among insured respondents (M = 3.63, SD = 0.88) compared to uninsured respondents (M = 3.91, SD = 0.39) at the 10% level (p = .061), so there is weak-to-moderate support for H3: insurance does not reduce medical spending, but it does lessen the downstream financial consequences of these costs. The chi-square analysis also showed that income level is a significant factor in both OOPE and Financial Burden, with the lowest income group having among the highest levels of OOPE and Financial Burden.

8.5 Linear Regression Analysis

8.5.1.Out-of-Pocket Expenditure is forecasted using Medical Inflation Perception *(tests H1)*

Table 6: Regression Model 1 (DV: OOPE)

Predictor	B	Std. Error	t	p-value
(Constant)	1.884	0.288	6.535	<.001
Medical Inflation Perception (MIP)	0.500	0.068	7.343	<.001

Source: Author's own calculation

$R^2 = .380$, Adjusted $R^2 = .373$, $F(1, 88) = 53.92$, $p < .001$. The adjusted R-square value for medical inflation perception is 0.38 and it is a strong significant positive predictor of out of pocket expenditure on healthcare. This is a strong support for H1 (null hypothesis $H0_1$ is rejected).

8.5.2 Financial Burden predicted by Out-of-Pocket Expenditure and Insurance Status *(tests H2 and H3).*

Table 7: Regression Model 2 (DV: Financial Burden)

Predictor	B	Std. Error	t	p-value
(Constant)	1.230	0.402	3.062	.003
Out-of-Pocket Expenditure (OOPE)	0.668	0.098	6.826	<.001
Insurance Status (1 = Insured)	-0.228	0.120	-1.906	.060

Source: Author's own calculation

$R^2 = .374$, Adjusted $R^2 = .360$, $F(2, 87) = 26.04$, $p < .001$. There is strong, significant support for H2 and rejection of $H0_2$ as out-of-pocket expenditure is a strong positive predictor of financial burden (that is, a decrease in economic welfare). Insurance status has a negative coefficient, indicating that those who are insured have a lower financial burden, which is only marginally significant ($p = .060$), providing some support for H3, but not enough to be statistically significant at the conventional 5% level.

8.5.3. Financial Burden predicted by Medical Inflation, Out-of-Pocket Expenditure and Insurance Status (*tests H6*).

Table 8: Regression Model 3 (DV: Financial Burden)

Predictor	B	Std. Error	t	p-value
(Constant)	1.305	0.417	3.130	.002
Medical Inflation Perception (MIP)	-0.071	0.101	-0.699	.486
Out-of-Pocket Expenditure (OOPE)	0.722	0.125	5.768	<.001
Insurance Status (1 = Insured)	-0.219	0.121	-1.815	.073

Source: Author's own calculation

$R^2 = .378$, Adjusted $R^2 = .356$, $F(3, 86) = 17.42$, $p < .001$. Including OOE with Medical Inflation Perception there was no statistical significance between the two for the direct effect of Medical Inflation on Financial Burden ($p = .486$), but OOE was still a strong statistically significant predictor ($p < .001$). This pattern is similar to full mediation, as there is a significant zero-order correlation between Medical Inflation Perception and Financial Burden ($r = .304$, $p = .004$) and a strong correlation between MIP–OOPE ($r = .616$, $p < .001$). This still doesn't contradict H6 — medical inflation does have a significant overall effect on financial stability — but does help specify that the pathway is not directly from medical inflation to financial stability, it is rather from medical inflation to out-of-pocket spending to financial stability.

8.6 Hypothesis Testing Summary

Table 9: Summary of Hypothesis testing

Hypothesis	Statistical Test	Result	Decision
H1: Medical inflation → OOP costs (positive)	Linear Regression	$\beta = .500$, $p < .001$	$H0_1$ rejected; $H1_1$ supported
H2: OOP costs → economic welfare (negative)	Linear Regression	$\beta = .668$, $p < .001$	$H0_2$ rejected; $H1_2$ supported
H3: Insurance influences cost–economy link	ANOVA / Regression	$p = .060–.073$	$H0_3$ not rejected at 5%; marginal/partial support for $H1_3$
H4: OOPE differs by insurance status	One-way ANOVA	$F = 0.353$, $p = .554$	$H0_4$ not rejected
H5: Income relates to financial impact	Chi-square / ANOVA	$\chi^2 = 33.63$, $p < .001$; $F = 4.16–11.82$, $p < .01$	$H0_5$ rejected; $H1_5$ supported
H6: Medical inflation affects financial stability	Multiple Regression	Indirect effect via OOPE significant; direct effect n.s.	$H0_6$ rejected; $H1_6$ supported (fully mediated)

9. Future Scope of Research

For future studies, the analysis of medical inflation via advanced statistical and machine-learning algorithms is recommended for the development of a predictive analysis of inflation in the medical sector and its effect on Indian households. The effects of increasing health expenditure on various income groups, rural and urban dwellers, and age groups can be studied. A larger and more demographically balanced sample of households could be used for further studies that examine the impact of medical inflation on household savings, insurance coverage, borrowing, and consumption patterns, as the sample employed in this study is a convenience sample. The study can also be used to compare medical inflation in the various states of India and inflation in India as a whole. Future research can test the effectiveness of any government health care scheme and health insurance to alleviate the financial burden on households, and can formally assess the mediation pathway (medical inflation → out-of-pocket expenditure → financial burden) that was found in this study using structural equation modelling. Moreover, the data obtained from the longitudinal study throughout several years can be utilized to make better prediction of medical inflation.

10. Conflict of Interests

The authors have no financial, professional or personal conflicting interest related to this research paper. The primary data collected in this study were obtained independently via structured questionnaire for academic research purposes with no financial, sponsoring, or other contributions from any governmental body, insurance company or hospital groups, or other commercial entity that might reasonably be expected to have an effect on the findings, interpretations, or recommendations contained in this paper.

11. Conclusion

The basic objective of this study was to analyse the relationship between perceived inflation in medical sector with financial status of Indian households using primary survey data which was analysed by Chi-square test, one-way ANOVA test and linear regression with 90 respondents. The results strongly and significantly support the sequential, largely mediated association: medical inflation is strongly and significantly associated with higher perceived OOP medical expenditure, which is strongly and significantly associated with higher perceived burden on the household financial resources, both in terms of reduced savings and increased borrowing and asset sales. The effect of medical inflation on the financial burden is much more muted when tested at the same time as out-of-pocket expenditure, suggesting that the influence of medical inflation on financial stability is more indirect than direct.

Health insurance and household income are the two key conditioning factors that come into play. Overall, the presence of insurance status did not affect the reported amount of OOP costs, although it was marginally associated with a lower level of downstream financial burden, which implies that insurance does not fully protect against the effects of increasing medical expenses. Household income was found to have a clear and statistically significant relationship both with out-of-pocket expenditure and financial burden, with lower income households being overrepresented in the high financial impact category, thus demonstrating that the burden of medical inflation in India is not evenly distributed and affects the economically weaker households more.

The overall findings of these results support five out of the six hypotheses tested (H1, H2, H5 and H6 fully; and H3 on the 10% rather than 5th significance level) and give grounds for rejecting hypothesis H4 because the difference between perceived out-of-pocket spending and insurance status alone was not significant. The results further support the argument advanced in the literature review that the financial protection mechanism in place in India is useful but limited and household income remains a primary driver of vulnerability to medical inflation. Policy-wise, the findings imply the need for health insurance and public funding for health that better address the primary out-of-pocket costs of receiving care (not just the downstream financial effects), along with targeted interventions for low-income households, who are here demonstrated to have a disproportionate financial burden from increasing health care expenses.

12. References

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