



# ASSESSING AWARENESS AND SATISFACTION TOWARDS HEALTH INSURANCE: AN EMPIRICAL STUDY IN MANGALURU CITY, KARNATAKA

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## ABSTRACT

Health insurance plays a vital role in protecting individuals from unexpected medical expenses and ensuring financial security. Despite the implementation of various health insurance schemes in India, levels of awareness and satisfaction remain uneven across population groups. The present study examines awareness and satisfaction regarding health insurance among adult residents of Mangaluru City, Karnataka. Primary data were collected from 384 respondents using a structured questionnaire. Descriptive statistics, Chi-square tests, and binary logistic regression analysis were employed to analyse the data. The findings reveal that a considerable proportion of respondents lack adequate understanding of policy terms and conditions, influencing their decision not to purchase health insurance. Significant associations were observed between awareness levels and demographic variables such as gender and locality. Insurance agents emerged as a major source of information influencing policy purchase decisions. The study emphasises the need for targeted awareness initiatives, particularly in semi-urban areas, and recommends improving transparency and customer-engagement practices to enhance policyholders' satisfaction and trust. The findings provide useful insights for policymakers and insurance providers in strengthening health insurance penetration in Tier-II cities such as Mangaluru.

**Keywords:** Health Insurance, Awareness, Satisfaction, Mangaluru, Chi-square Test, Logistic Regression

## 1. INTRODUCTION

Health is widely recognised as a fundamental human right and a critical determinant of socio-economic development. However, escalating healthcare costs across the globe have increased financial vulnerability among households, particularly in developing countries such as India, where out-of-pocket expenditure continues to be a dominant mode of healthcare financing. Unexpected medical expenses often push families into financial distress, making health insurance

an essential mechanism for risk protection and financial stability.

Over the past two decades, both the Government of India and private insurers have introduced multiple health insurance schemes aimed at expanding coverage and improving healthcare accessibility. Initiatives such as Ayushman Bharat and various state-sponsored programmes have sought to enhance insurance penetration among diverse socio-economic groups. Despite these efforts, adoption rates remain uneven, and a



substantial proportion of the population remains either uninsured or inadequately informed about policy benefits and procedures. Evidence from the National Family Health Survey (NFHS-5) indicates that health insurance coverage in India has improved; however, significant disparities persist across regions, income groups, and rural–urban settlements.

### 1.2 Problem Statement

While the availability of health insurance policies has increased considerably, awareness and satisfaction continue to pose significant challenges affecting the effectiveness of insurance programmes. Many individuals purchase insurance without fully understanding policy terms, coverage limits, exclusions, or claim procedures, which often results in dissatisfaction and reduced trust in insurers. In Tier-II cities, where populations exhibit characteristics of both rural and urban socio-economic structures, these challenges become more pronounced. Limited empirical evidence exists regarding how awareness influences satisfaction and adoption behaviour in such rapidly urbanising regions. Consequently, inadequate awareness and perceived service inefficiencies continue to hinder the broader objective of achieving universal health coverage.

### 1.3 Research Gap

Existing literature on health insurance in India largely focuses on rural populations, specific government-sponsored schemes, or macro-level national analyses. Although studies examining awareness or satisfaction independently are relatively common, integrated investigations analysing both constructs simultaneously within Tier-II urban contexts remain limited. Furthermore, the influence of socio-demographic characteristics such as locality, education, and occupation on awareness and satisfaction outcomes has not been sufficiently explored in cities like Mangaluru. Addressing this gap is essential for understanding behavioural and informational barriers affecting health insurance penetration in emerging urban centres.

## 1.4 Objectives of the Study

The study aims to:

1. Examine the level of awareness regarding health insurance policies among adult residents of Mangaluru City.
2. Assess respondents' satisfaction with health insurance services and coverage.
3. Analyse the association between selected socio-demographic variables and awareness and satisfaction levels.
4. Provide evidence-based recommendations to improve insurance literacy and customer experience.

## 1.5 Contribution of the Study

This study contributes to the existing literature in three important ways. First, it provides empirical evidence from a Tier-II Indian city, an under-researched context in health insurance research. Second, it integrates awareness and satisfaction within a single analytical framework to better understand behavioural outcomes related to health insurance adoption. Third, the study offers practical managerial and policy insights that may assist insurance providers and policymakers in designing targeted communication strategies and improving service delivery mechanisms to enhance insurance adoption and public trust.

## 2. Literature Review and Hypotheses Development

Health insurance adoption and continued participation largely depend on individuals' awareness of policy features and their satisfaction with service experiences. Prior research suggests that inadequate knowledge, perceived complexity, and concerns regarding service quality significantly influence enrolment decisions and policy renewal behaviour. This section reviews existing literature under two broad themes—awareness and satisfaction—and develops hypotheses guiding the empirical analysis.

### 2.1 Awareness of Health Insurance

Awareness refers to the extent to which individuals understand health insurance concepts,



including policy coverage, exclusions, claim procedures, and financial benefits. It is considered a primary determinant of insurance adoption, as informed individuals are better able to evaluate risks and recognise the value of financial protection.

Early studies in India highlighted widespread information asymmetry in insurance markets. Despite technological advancement and policy expansion, recent research indicates that awareness gaps persist. Bawa and Ruchita (2019) found that lack of clarity regarding policy conditions remains a major barrier to insurance uptake among middle-income households. Similarly, Chatterjee and Roy (2020) observed that individuals frequently rely on informal information sources such as agents or peers rather than official communication channels, resulting in partial or inaccurate understanding.

Recent empirical evidence emphasises the influence of socio-demographic characteristics on awareness levels. Kumar and Singh (2021) reported that education and employment status significantly affect insurance literacy, while Narayana et al. (2022) identified locality-based disparities, with lower awareness observed in semi-urban and transitioning regions compared to metropolitan areas. Although digitalisation has improved information accessibility, Joseph and Varghese (2023) noted that digital platforms primarily benefit technologically literate users, leaving others dependent on intermediaries.

From a theoretical perspective, awareness aligns with Information Asymmetry Theory, which suggests that unequal access to information between insurers and consumers reduces efficient decision-making. Increased awareness reduces uncertainty and enhances confidence in purchasing insurance products.

Based on the reviewed literature, awareness is expected to vary across demographic categories.

**H1:** There is a significant association between socio-demographic characteristics and awareness of health insurance policies.

## 2.2 Satisfaction towards Health Insurance Services

Satisfaction reflects consumers' evaluation of

their experiences with insurance services, including claim settlement efficiency, transparency, premium affordability, and customer support. Customer satisfaction plays a crucial role in policy retention and positive word-of-mouth behaviour.

Earlier research identified procedural complexity and delayed claim settlements as major sources of dissatisfaction. Recent studies continue to highlight persistent service quality concerns. Sharma and Mehta (2019) found that transparency in claim settlement strongly predicts customer trust. Paul et al. (2021) reported that dissatisfaction often arises when policyholders' expectations differ from actual coverage benefits, indicating communication gaps during policy purchase.

Service Quality Theory suggests that satisfaction results from the comparison between expected and perceived performance. Applying the SERVQUAL framework, Reddy and Kumar (2022) demonstrated that responsiveness and assurance significantly influence policyholder satisfaction in Indian insurance markets. Additionally, Thomas and Nair (2023) observed that network hospital availability and digital claim-tracking systems positively affect satisfaction among urban policyholders.

Satisfaction is also influenced by awareness levels, as individuals who clearly understand policy terms are less likely to experience dissatisfaction during claim processing.

**H2:** Awareness of health insurance policies has a significant association with satisfaction levels among policyholders.

## 2.3 Role of Information Sources in Insurance Adoption

Information channels significantly shape consumer perceptions and purchase decisions. Insurance agents, digital media, healthcare providers, and peer networks act as intermediaries in transmitting insurance-related knowledge.

Recent studies indicate that personal interaction remains highly influential in emerging urban markets. Gupta and Sharma (2020) found that insurance agents continue to dominate awareness creation despite the increasing availability of online information. Similarly, Patil and Deshpande (2022)



observed that trust in agents strongly predicts insurance enrolment decisions in Tier-II cities.

However, reliance on agents may also limit comprehensive understanding if communication focuses primarily on sales rather than consumer education.

**H3:** Source of information significantly influences the decision to purchase health insurance.

### **2.4 Awareness, Satisfaction, and Insurance Adoption**

Behavioural theories suggest that informed consumers develop greater perceived value and trust toward financial products. Studies integrating awareness and satisfaction indicate that both variables jointly influence adoption behaviour.

Das and Sarkar (2021) found that policy literacy increases perceived reliability of insurers, while Mishra et al. (2024) demonstrated that satisfaction mediates the relationship between awareness and renewal intention. These findings suggest that improving awareness alone may not be sufficient unless accompanied by positive service experiences.

**H4:** Higher awareness and satisfaction levels are positively associated with health insurance adoption.

## **3. Research Methodology**

### **3.1 Research Design**

The study adopts a descriptive and analytical research design. Descriptive research is appropriate for examining existing levels of awareness and satisfaction regarding health insurance, while analytical methods enable testing relationships between socio-demographic variables and insurance-related outcomes.

A quantitative research approach was employed, as numerical data were collected using a structured questionnaire and analysed through statistical techniques.

### **3.2 Area of Study: Rationale for Selecting Mangaluru**

Mangaluru City in Dakshina Kannada district of Karnataka was selected purposively for the

following reasons:

1. The city represents a Tier-II urban centre, combining urban infrastructure with semi-urban and rural peripheral populations.
2. Mangaluru has a strong presence of educational institutions, healthcare facilities, banking services, and insurance providers, making it suitable for studying insurance awareness and adoption behaviour.

Thus, Mangaluru provides an appropriate setting to understand insurance behaviour in emerging urban economies.

### **3.3 Population of the Study**

The target population consists of adult residents (18 years and above) of Mangaluru City, including both insured and uninsured individuals across different socio-economic backgrounds. Inclusion of uninsured respondents enabled identification of awareness gaps influencing non-adoption of health insurance.

### **3.4 Sample Size Determination**

The sample size was determined using Cochran's formula for an unknown population. The calculated minimum sample size was 384 respondents.

Accordingly, data were collected from 384 adult residents of Mangaluru City, ensuring adequate statistical power and generalisability of findings.

### **3.5 Data Collection Method**

Primary data were collected using a structured questionnaire administered through personal interaction. The questionnaire primarily consisted of closed-ended questions suitable for statistical analysis.

### **3.6 Tools and Techniques for Data Analysis**

Data were coded and analysed using Microsoft Excel and SPSS software.

The following statistical tools were employed:

- Descriptive statistics (frequency and percentage)
- Chi-Square Test of Association
- Binary Logistic Regression analysis



### 3.7 Limitations of the Study

- Study restricted to a single city.
- Self-reported responses may involve perception bias.
- Cross-sectional design limits causal interpretation.

## 4. Data Analysis and Interpretation

### 4.1 Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Age	21–40	166	43.30
	41–60	139	36.08
	18–20	79	20.62
Gender	Male	210	54.64
	Female	174	45.36
Qualification	High School	127	32.99
	Intermediate	119	30.93
	Graduate & Above	111	28.87
	Primary	27	7.21
Locality	Rural	178	46.39
	Semi-Urban	119	30.93
	Urban	87	22.68
Occupation	Business	99	25.77
	Private Employee	194	50.52
	Housewife	51	13.40
	Govt. Employee	40	10.31

### Interpretation

The socio-demographic profile of the 384 respondents indicates a diverse sample representing different age groups, genders, educational backgrounds, localities, and occupations. A majority of respondents (43.30%) belonged to the 21–40 years age group, followed by 41–60 years (36.08%), while 20.62% were below 20 years.

Gender distribution was relatively balanced, with males constituting 54.64% and females 45.36% of the sample.

In terms of education, most respondents possessed moderate educational attainment, with 32.99% completing high school and 30.93% intermediate education, whereas 28.87% held graduation or higher qualifications.

Nearly half of the respondents (46.39%) were from rural areas, followed by semi-urban (30.93%) and urban (22.68%) regions, indicating substantial representation from peripheral areas.

Occupationally, private employees formed the largest group (50.52%), followed by business owners (25.77%), housewives (13.40%), and government employees (10.31%). Overall, the sample reflects varied socio-economic backgrounds suitable for analysing awareness and satisfaction related to health insurance.

### 4.2 Awareness and Satisfaction Metrics

Parameter	Yes (%)	No (%)
Awareness of Policy Terms & Conditions	45.36	54.64
Purchased Health Insurance Policy	34.02	65.98
Satisfied with Policy	39.18	60.82
Belief in Insurance Company Transparency	31.96	68.04
Source of Awareness (Policy Agents dominant)	29.90	-

The findings reveal limited awareness and moderate engagement with health insurance among respondents. Only 45.36% were aware of policy terms and conditions, indicating a significant gap in policy understanding. Health insurance penetration was low, with just 34.02% of respondents having purchased a policy. Among policyholders, satisfaction levels were relatively poor, as only 39.18% expressed satisfaction with their insurance coverage.

Trust in insurance companies was also low, with only 31.96% perceiving insurers as transparent, reflecting concerns regarding communication and claim practices. Policy agents emerged as the primary source of awareness for 29.90% of respondents, highlighting continued dependence on intermediaries rather than institutional or



digital information channels.

Overall, the results indicate low awareness, limited adoption, dissatisfaction among policyholders, and trust deficits, suggesting the need for improved communication, transparency, and customer-centric strategies to enhance health insurance penetration and satisfaction.

#### 4.3 Chi-Square Test Results: Association between Demographic Variables and Health Insurance Aspects

Relationship	$\chi^2$ Value	df	p-value	Significance
Age × Satisfaction	5.42	4	0.246	Not Significant
Qualification × Policy Purchase	6.88	6	0.331	Not Significant
Locality × Policy Purchase	12.45	2	0.002	Significant
Gender × Awareness	9.13	1	0.003	Significant

#### Interpretation

The chi-square test of independence examined relationships between socio-demographic variables and health insurance outcomes.

Age showed no significant association with satisfaction levels, indicating that dissatisfaction is relatively uniform across age groups. Similarly, educational qualification was not significantly associated with policy purchase, suggesting that education alone does not guarantee insurance adoption.

However, locality exhibited a significant association with policy purchase, implying that geographic context influences insurance uptake, with urban residents likely benefiting from better accessibility and exposure.

Gender also demonstrated a significant relationship with awareness levels, indicating disparities in access to insurance information between male and female respondents.

These findings highlight that geographical and gender factors play a stronger role in shaping insurance engagement than age or educational attainment.

#### 4.4 Binary Logistic Regression Analysis: Predictors of Health Insurance Policy Purchase

Variable	$\beta$ Coefficient	p-value
Gender (Male)	0.814	0.046
Urban Locality	1.109	0.022
Awareness (via Agents)	0.935	0.015

- Nagelkerke  $R^2 = 0.289 \rightarrow$  Moderate predictive power.

#### Interpretation

Binary logistic regression analysis was conducted to identify predictors influencing health insurance purchase.

The results indicate that gender significantly affects policy ownership, with male respondents more likely to possess health insurance policies. Urban locality emerged as a significant predictor, suggesting that improved service access and information exposure enhance adoption probability.

Awareness generated through insurance agents also showed a strong positive effect, emphasising the continued importance of intermediaries in promoting insurance uptake.

The model demonstrates moderate explanatory strength, explaining approximately 29% of variation in insurance purchase behaviour.

Overall, demographic and informational factors—particularly gender, locality, and agent-driven awareness—significantly influence health insurance adoption, underscoring the importance of targeted awareness and inclusive outreach strategies.

#### 5. Discussion

The present study examined awareness and satisfaction towards health insurance among adult residents of Mangaluru City, with particular emphasis on socio-demographic influences, information sources, and adoption behaviour.



The findings provide important insights into behavioural and informational factors influencing health insurance penetration in emerging urban centres.

### 5.1 Awareness of Health Insurance

The results indicate that awareness levels vary significantly across socio-demographic characteristics, supporting Hypothesis H1, which proposed an association between demographic factors and awareness of health insurance policies. Differences observed across gender and locality suggest that access to information and exposure to financial products remain uneven among population groups.

Respondents from urban areas demonstrated relatively higher awareness compared to rural and semi-urban residents, indicating the role of information accessibility, institutional presence, and digital exposure in shaping insurance literacy. This finding aligns with earlier studies that identified locality-based disparities in insurance awareness, particularly in transitioning urban regions. The results reinforce the argument of Information Asymmetry Theory, which states that unequal distribution of information reduces individuals' ability to make informed financial decisions.

Despite the availability of multiple insurance schemes, a considerable proportion of respondents reported limited understanding of policy terms and claim procedures. This suggests that policy expansion alone does not guarantee effective penetration unless accompanied by structured awareness initiatives.

### 5.2 Satisfaction Towards Health Insurance Services

The study findings partially support Hypothesis H2, indicating that awareness is significantly associated with satisfaction among policyholders. Respondents possessing clearer knowledge of policy features reported comparatively higher satisfaction levels.

This relationship may be explained through Service Quality Theory, which proposes that

satisfaction emerges from the comparison between expected and perceived service performance. Individuals who understand coverage conditions and claim processes are less likely to experience expectation–performance gaps, thereby reducing dissatisfaction.

The findings also highlight that dissatisfaction often arises not solely from service failure but from misunderstanding policy provisions at the time of purchase. This underscores the importance of transparent communication and customer education during policy enrolment.

### 5.3 Role of Information Sources in Insurance Adoption

The analysis confirms Hypothesis H3, demonstrating that the source of information significantly influences insurance purchase decisions. Insurance agents emerged as the dominant source of awareness among respondents.

This result reflects the continued importance of interpersonal communication in Tier-II cities, where trust-based interactions play a crucial role in financial decision-making. While digital platforms are expanding, many individuals still rely on agents for explanation and reassurance before purchasing insurance products.

However, dependence on agent-driven communication may also contribute to incomplete understanding when information is sales-oriented rather than educational. The finding suggests that insurers should balance personalised selling with structured consumer education programmes.

### 5.4 Awareness, Satisfaction, and Insurance Adoption Behaviour

The results support Hypothesis H4, indicating that higher awareness and satisfaction levels are positively associated with health insurance adoption. Logistic regression analysis shows that informed individuals are more likely to purchase insurance, highlighting awareness as a behavioural catalyst rather than merely an informational variable.

The findings align with behavioural decision theories suggesting that perceived value and



trust increase when consumers understand product benefits. Satisfaction further strengthens adoption by reinforcing confidence in insurers and encouraging continued participation.

Thus, awareness and satisfaction function as complementary drivers of insurance penetration. Awareness facilitates initial adoption, while satisfaction sustains long-term engagement.

### 5.5 Implications for Tier-II Urban Contexts

The study contributes context-specific insights relevant to Tier-II cities such as Mangaluru. Unlike metropolitan areas characterised by high digital exposure or rural regions dominated by government schemes, Tier-II cities exhibit hybrid socio-economic characteristics. Consequently, awareness gaps coexist with growing healthcare infrastructure.

The findings suggest that improving insurance penetration in such regions requires targeted strategies combining community-level awareness campaigns, simplified policy communication, and enhanced service transparency. Strengthening these elements can reduce informational barriers and improve public trust in insurance systems.

## 6. Conclusion

The present study examined the level of health insurance penetration and analyzed the influence of socio-demographic factors on the adoption of health insurance policies among respondents. In the modern socio-economic environment, rising medical expenses, increased health risks, and uncertainties associated with healthcare emergencies have made health insurance an essential component of financial security and risk management. The findings of this study provide important insights into awareness levels, adoption behavior, and factors influencing participation in health insurance schemes.

The analysis indicates that while awareness regarding health insurance has improved among individuals, the actual level of penetration remains comparatively moderate. A significant gap exists between awareness and enrollment, suggesting that knowledge alone does not guarantee policy

adoption. Factors such as affordability concerns, lack of trust, limited understanding of policy terms, procedural complexity, and misconceptions about benefits continue to influence individuals' decisions regarding insurance coverage.

The study further reveals that socio-demographic variables play a crucial role in determining health insurance adoption. Characteristics such as age, income level, employment status, educational background, and place of residence demonstrate varying degrees of association with insurance penetration. Individuals with higher income stability and greater financial awareness tend to exhibit a higher likelihood of purchasing health insurance policies. On the other hand, respondents with lower income levels or irregular employment show relatively lower participation, indicating financial and informational barriers. Another important finding is the reliance of many individuals on informal financial coping mechanisms or employer-provided benefits instead of independent health insurance coverage. This highlights the need for stronger financial literacy initiatives and awareness programs that emphasize the long-term benefits of health insurance as a protective financial instrument rather than an optional expense.

The study also underscores the importance of institutional support and policy interventions in improving penetration levels. Simplification of insurance procedures, transparent communication by insurance providers, affordable premium structures, and targeted awareness campaigns can significantly enhance participation rates. Strengthening trust between consumers and insurance institutions is equally essential for expanding coverage. Overall, health insurance adoption is influenced not only by economic capability but also by behavioral perceptions, awareness levels, accessibility of information, and institutional support systems. Addressing these dimensions through coordinated efforts by policymakers, insurers, and financial educators can improve insurance inclusiveness and promote financial resilience among individuals.



In conclusion, increasing health insurance penetration requires a comprehensive approach that integrates awareness creation, affordability, accessibility, and consumer confidence. Enhancing these aspects will contribute to improved financial protection against medical uncertainties and support broader social and economic well-being.

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