

## Original Research Article

# Health insurance coverage and its awareness among population in the rural field practice area of Adichunchanagiri Institute of Medical Sciences, B G Nagara, Karnataka

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### ABSTRACT

**Background:** In India, there is marked lack of awareness of health insurance in the rural and low socioeconomic sector due to reasons like the existing burden on the poor making them reluctant to think of the credit policies that are actually issued in their interest, illiteracy, lack of exposure and the growth of the private sectors has an upper hand over public sectors. Hence this study was done with the objective to determine the health insurance coverage and its awareness including perception among the rural population around Adichunchanagiri Institute of Medical Sciences, BG Nagara, Mandya.

**Methods:** This cross sectional study was carried out among 295 households in the rural field practice area of Adichunchanagiri Institute of Medical Sciences, B G Nagara for a period of 3 months. Personal interview of the households was done using pretested semi structured questionnaire after obtaining the consent. Data was entered in MS excel and descriptive statistical measures like percentage, mean, and standard deviations were calculated. An inferential statistical measure like Chi square test was applied.

**Results:** Among 295 households, Male constituted 49.5% and Hindus were 94.9%. 44.7% of the families were enrolled to health insurance schemes and 75.0% of them use to renew their health insurance scheme regularly. The factors which were significantly associated with health insurance enrollment and awareness were gender, education, occupation, hospitalization during last year and socioeconomic status. Only 173 (58.6%) of the respondents were aware of health insurance.

**Conclusions:** More than half of the study population was covered by health insurance policies and majority of them were unaware of the available insurance schemes, risks and benefits of the same.

**Keywords:** Health insurance, Awareness, Perception, Household

### INTRODUCTION

“Insurance” is defined as the equitable transfer of the risks of loss from one entity to another. The basic principle of piling risks of unexpected costs is the main objective of insurance system.

“Health insurance” is an insurance that covers the whole or part of the risk of a person incurring medical expenses,

spreading the risk over a large number of persons. By estimating the overall risk of health care and health system expenses over a risk pool, an insurer can develop a routine finance structure such as monthly premium or payroll tax, to provide the money to pay for the health care benefits specified in the insurance agreement.<sup>1</sup>

The history of health insurance in India traces back to 1923 when the “Workman’s compensation act” was

passed. The year 1948 saw the introduction of Employees' State Insurance (ESI) act. The year 1999, with the passing of Insurance Regulatory Development Authority Bill (IRDA), marked the beginning of a new era for Indian health insurance, with a couple of international players investing in the Indian health insurance market by teaming up with local companies.<sup>2</sup>

In 2011, 3.9% of India's GDP was spent in the health sector.<sup>3</sup> Out of this 3.9% health insurance accounts for 5-10% expenditure, employers account for around 9% while personal expenditure amounts to an astounding 82%.<sup>4</sup> In the survey carried out in the year 2014 by National Sample Survey Office (NSSO), it was found out that more than 80% of Indians are not connected under any health insurance plan and only 18% (Government funded 12%) of the urban population and 14% (Government funded 13%) of the rural was covered under any form of health insurance.<sup>5</sup>

On 14th April 2018, Government of India launched a health insurance programme called Ayushman Bharat Yojana or National Health Protection Scheme which consists of two major elements-national health protection scheme—to provide cashless treatment to patients and wellness centers—to provide primary care to the patients.<sup>6</sup> 10 crore poor and vulnerable families are covered providing coverage up to 5 lakh rupees per family per year with secondary and tertiary care hospital facilities.

In the year 2018, Government of Karnataka launched "Suvama Arogya Suraksha Scheme" which aims to extend Universal health coverage to all residents in Karnataka. Now Karnataka is the first state in India to provide universal health coverage. The current ongoing health schemes in the state of Karnataka will be covered under this scheme.<sup>7</sup>

Awareness about health insurance includes awareness in the general population, both urban and rural about its availability, characteristics of coverage, benefits, costs, usefulness and problems faced while getting claims. In India, there is marked lack of awareness of the above especially in the rural and low socioeconomic sector due to the existing burden on the poor making them reluctant to think of the credit policies that are actually issued in their interest, Illiteracy, Lack of exposure and the growth of the private sectors has an upper hand over public sectors. Due to this, the expensive services of the private sector fail to reach them. Hence this study was undertaken to determine the health insurance coverage and its awareness including perception among the rural population around Adichunchanagiri Institute of Medical Sciences (AIMS), BG Nagara, Mandya.

## **METHODS**

### ***Study design***

It was a community based cross-sectional study done in rural field practice area of department of community

medicine, AIMS, BG Nagara which comprises around 28 villages of 5,138 households for a period of three months (August 2018 to October 2018).

Study population consisted of the residents of the selected villages.

### ***Inclusion and exclusion criteria***

Inclusion criteria were all the households who were resident and gave consent to participate in the study. Exclusion criteria were the households who were not permanent residents of the village.

### ***Sample size***

Sample size was calculated using prevalence of 58% from the study conducted by Harish et al, which came out to be 289 (rounded off to 295) households with 10% allowable error. Sampling units were households.<sup>9</sup>

### ***Data collection***

Rural field practice area of AIMS, BG Nagara consists of 28 villages. All those villages were listed and 3 villages were randomly selected for the study. Population proportion to sample size was chosen from 3 villages using simple random sampling technique. After obtaining the consent, data was collected using Pre tested semi structured questionnaire by interview technique. The informants were informed about the study and each question was explained to them in their local language in which they could understand. House- to -house visit was made and the required information was collected by the investigator from the head of the family. If the selected house was locked, adjacent household was visited and only one member was interviewed from each house. Socio economic status was assessed using modified BG Prasad classification.

### ***Study tool***

Information was obtained using Pre tested semi structured questionnaire by interview technique.

The following variables with three parts were collected: Part 1: information related to socio demographic factors like data on name of head of family, address, religion, total family members, type of the family, education, occupation and income etc. Part 2: information related to Health insurance covered with relevant details. Part 3: includes information related to knowledge and perception on Health insurance schemes.

### ***Statistical analysis***

Data was entered in Microsoft excel and analyzed using Statistical Package for Social Sciences (SPSS) version 16. Descriptive statistical measures like percentage, mean, and standard deviations were calculated. An

inferential statistical measure like Chi square test was applied. Differences were interpreted to be statistically significant at  $\alpha$  error of 5%.

## RESULTS

Among 295 households interviewed, majority of them 200 (67.8%) were in productive age group of 20-50 years, 39 (13.2%) were aged >60 years and 12 (4.1%) were less than 20 years. 149 (50.5%) of them were female and 146 (49.5%) were male members of the household. Of the study participants, 280 (94.9%) were Hindus, 11 (3.7%) were Muslims followed by 4 (1.4%) Christians and others. With respect to educational status, 52 (7.6%) of them were illiterates, very less 53 (18.0%)

and 4 (1.4%) had done graduation and post-graduation respectively. Majority of them 69 (23.4%) and 80 (27.1%) were housewife and agriculturist respectively. Hence this shows the predominant rural population who are dependent on agriculture. 237 (80.3%) of the study subjects were married, followed by 52 (17.6%) unmarried, 2 (0.7%) divorced and 4 (1.4%) widow.

**Table 1: Distribution of households based on their enrolment in health insurance scheme.**

Enrollment	Frequency	Percentage (%)
Yes	132	44.7
No	163	55.3

**Table 2: Relation between socio demographic variables and enrolment to health insurance schemes.**

Variables	Enrolment to health insurance		Total	Chi square value	P value		
	Enrolled	Not enrolled					
<b>Gender</b>							
Female	56 (37.6)	93 (62.4)	149	6.24	0.014		
Male	76 (52.1)	70 (47.9)	146				
<b>Religion</b>							
Christian	1 (100)	0	1	6.299	0.098		
Muslim	3 (27.3)	8 (72.7)	11				
Hindu	125 (44.6)	155 (55.4)	280				
Others	3(100)	0	3				
<b>Type of family</b>							
Nuclear	85 (46.2)	99 (53.8)	184	1.679	0.432		
Joint	29 (38.7)	46 (61.3)	75				
Three generation	18 (50)	18 (50)	36				
<b>Age group (in years)</b>							
<20	6 (50)	6 (50)	12	8.348	0.138		
20-30	40 (54.8)	33 (45.2)	73				
30-40	35 (49.3)	36 (50.7)	71				
40-50	23 (41.1)	33 (58.9)	56				
50-60	16 (36.4)	28 (63.6)	44				
>60	12 (30.8)	27 (69.2)	39				
<b>Education</b>							
Illiterate	9 (17.3)	43 (82.7)	52	23.87	<0.05		
Primary	24 (40.7)	35 (59.3)	59				
High school	35 (49.3)	36 (50.7)	71				
Secondary	30 (53.6)	26 (46.4)	56				
Graduate	32 (60.4)	21 (39.6)	53				
Post graduate	2 (50)	2 (50)	4				
<b>Occupation</b>							
Housewife	18 (26.1)	51 (73.9)	69	25.158	<0.05		
Business	20 (64.5)	11 (35.5)	31				
Agriculturist	40 (50)	40 (50.0)	80				
Government Job	8 (34.8)	15 (65.2)	23				
Private Job	25 (55.6)	20 (44.4)	45				
Labourer	3 (18.8)	13 (81.2)	16				
Others	18 (58.1)	13 (41.9)	31				
<b>Marital status</b>							
Married	99 (41.8)	138 (58.2)	237			10.04	0.18
Unmarried	32 (61.5)	20 (38.5)	52				
Divorced	1 (50.0)	1 (50.0)	2				
Widow	0 (0.0)	4 (100.0)	4				

Continued

Variables	Enrolment to health insurance	Total	Chi square value	P value
<b>Hospitalisation during last one year</b>				
Yes	47 (55.3)	38 (44.7)	85	5.374
No	85 (40.5)	125 (59.5)	210	
<b>Average monthly medical expenses</b>				
<500	54 (40.0)	81 (60.0)	135	3.731
501-1000	48 (52.7)	43 (47.3)	91	
1001-2000	15 (45.5)	18 (54.5)	33	
>2000	15 (41.7)	21 (58.3)	36	
<b>Socio economic status</b>				
Class I	22 (31.4)	48 (68.6)	70	9.911
Class II	50 (43.9)	64 (56.1)	114	
Class III	41 (56.9)	31 (43.1)	72	
Class IV	12 (52.2)	11 (47.8)	23	
Class V	7 (43.8)	9 (56.2)	16	

**Table 3: Awareness and perception among people regarding health insurance.**

Variables	Frequency	%
<b>Type of health insurance preferred</b>		
Government	251	85.1
Private	44	14.9
<b>Reasons for not enrolling to health insurance</b>		
Did not feel the need	45	15.3
High premiums charged	8	2.7
Lack of knowledge	160	54.2
Low/uncertain income	58	19.7
Low return for investment	18	6.1
Poor service provided	6	2.0
<b>Reasons to take up health insurance</b>		
Attractive schemes	2	0.7
Better health care for family	74	25.1
Covers big expenses	85	28.8
Expecting health problems	40	13.6
Tax benefits	5	1.7
To protect from rising cost of health	89	30.2
<b>Perception regarding compulsion of health insurance</b>		
Yes	244	82.7
No	51	17.3

Nuclear family system, 184 (62.4%) was seen to be most common than joint 75 (25.4%) and three generation family 36 (12.2%). Most of the families belonged to socioeconomic status class II, 114 (38.6%) and III, 72 (24.4%) according to modified B G Prasads classification and most of them, 176 (59.7%) were living in Pucca house. Out of all the subjects interviewed, 135 (45.8%) were spending <500 Rupees per month on medical expenses, 30.8% were spending on an average of 501-1000 Rupees, 11.2% on average of 1000-2000 Rupees and 12.2% on an average of more than 2000 Rupees.

Mean number of members in the family was found to be 4.57 and average number of earning members in the family was 1.90. 85 (28.8%) of the households had hospitalization to any family member during last one year. Average amount spent for hospitalization was approximately 52,124 Rupees. 185 (62.7%) of them was utilizing public hospitals when sick followed by 106 (35.9%) to private hospitals or private clinic and 4 (1.4%) preferred others like traditional therapists and quacks. The distance between the residence and nearest health facility available to the study subjects was less than 1 km for 95 (32.2%), between 1 km to 5 km for 136 (46.1%) and more than 5 km for 64 (21.7%) of the study participants.

It was found that 132 (44.7%) of the families were enrolled to health insurance schemes and 163 (55.3%) were not enrolled to any type of health insurance schemes. Of the 132 households who were enrolled, 99 (75.0%) were renewing the schemes regularly and majority of them had yeshasvini scheme and Pradhan Mantri Suraksha Bima Yojana (PMSBY) schemes which were actually old schemes. Other health insurance schemes enrolled by them were Rashtriya Swasthya Bima Yojana (RSBY), Central Government Health Scheme CGHS, ESI, and private insurance like HDFC, ICICI, Jyothi Sanjeevini etc.

When satisfaction of the study participants were asked about the health insurance utilized, 74 (56.0%) had good satisfaction, 3 (2.3%) excellent experience, 32 (24.2%) very good experience, 21 (15.9%) average experience and only 2 (1.5%) had poor experience. 117 (88.6%) of the insurance holders covered their family for health. The mean premium paid by the family members were as follows 24.1% of them were paying <500 Rupees, followed by 10.5% -501-1500, only 7.5% to 1500 to 5000 and 2.7% were paying >5000 Rupees premium.

Of the total 295 respondents, 173 (58.6%) of the respondents were aware of health insurance whereas

41.4% per cent of them were unaware of any health insurance schemes. When interviewed about the source of information and awareness on health insurance, 59 (20.0%) of them respondents said that the friends/relatives was the source followed by hospitals 44 (14.9%), insurance agents 13 (4.4%), TV/outdoor advertisements 13 (4.4%), internet 1 (0.3%) and newspaper 2 (0.7%). The factors which were significantly associated with health insurance enrollment and awareness were gender, education, occupation, hospitalization during last year and socioeconomic status. In the present study, it was observed that the main barriers for the subscription of health insurance were inadequate knowledge regarding its benefits (54.2%), low income or uncertainty of income (20%), do not feel the need (15.3%) and others like high premiums, low return for investment and poor service provided.

## DISCUSSION

Health insurance is highly necessary for the population like that of our country to meet the health expenditure and Protect households from impoverishment due to high out-of- pocket health expenditure.

In the present study, it was found that 44.7% of the families were enrolled to health insurance schemes and 75.0% of them use to renew their health insurance scheme regularly. 55.3% of the households under study have not subscribed for any health insurance schemes due to the lack of awareness and knowledge about the same when 15.3% of them haven't felt the need of any health insurance policies.

In a study done in Bangalore by Indumathi et al, 66.9% had health insurance coverage.<sup>8</sup> Comparatively this is higher than our study which can be due to the different study setting and population with varied awareness and perception on health insurance. Similar findings was seen in the study conducted by Harish et al in Mandya where the health insurance coverage for the family was 40.5% and individual level coverage was 48.8%.<sup>9</sup> 57% had availed health insurance in the study conducted by Sharon et al in coastal Karnataka.<sup>10</sup>

In the current study, male and female proportion were almost equal when compared to other studies where the male portion predominates this is due to the reason that during house visit, most of the times, it is the female who was available at home for the interview.<sup>11</sup> Majority 280 (94.9%) were hindus and most 62.4% were from nuclear families. This shows that not only in urban areas, even in rural areas currently the joint family system is fading with the new upcoming generation. These findings are comparable to the study by Reshmi et al.<sup>12</sup>

Majority of the population was between 20-50 years and only 7.6% of them were illiterates which indicate the improvement in educational status when compared to NFHS data. Majority of them, 23.4% and 27.1% were

agriculturist and housewife respectively. Hence this shows the predominant rural population who are dependent on agriculture as their main occupation which is similar to study by Suvarna et al.<sup>11</sup>

In the present study, of the total 295 respondents, 173 (58.6%) of the respondents were aware of health insurance whereas 41.4% of them were unaware of any health insurance schemes. these findings are similar to other studies, where still the knowledge and awareness is poor which has to improve by providing health education and advertisements.<sup>11,12</sup> Majority 62.7% of them was utilizing public hospitals when sick followed by 35.9% to private hospitals or private clinic and 1.4% preferred others like traditional therapists and quacks. This shows still there is lot of myths and beliefs on traditional therapists and quacks.

Of the households who were enrolled to Health insurance, Most of them have enrolled to government schemes like Yeshasvini and PMSBY and very less to private schemes. These government schemes were actually now been merged and some of them has been renamed/cancelled which was not known by the study participants. The main barriers for the subscription of health insurance as perceived by the household were inadequate knowledge regarding its benefits (54.2%), low income or uncertainty of income (20%), do not feel the need (15.3%) and others like high premiums charged, low return for investment and poor service provided which is comparable to the reasons given in other study.<sup>11</sup>

The factors which were significantly associated with health insurance enrollment and awareness were gender, education, occupation, hospitalization during last year and socioeconomic status. This was comparable to other studies where the similar factors were the determinants of health insurance awareness.<sup>12</sup> Hence community needs to be educated about the available health insurance schemes through different modes of health education or advertisements.

## CONCLUSION

More than half of the study population was covered by health insurance policies and majority of them were unaware of the available insurance schemes, risks and benefits of the same. The factors which were significantly associated with health insurance enrollment and awareness were gender, education, occupation, hospitalization during last year and socioeconomic status. Hence awareness among rural section of the society should be improved through various modes of communication to avoid them becoming poor due to the increased health care expenditure.

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## REFERENCES

1. Pekerti A, Vuong QH, Ho T, Vuong TT. Health Care Payments in Vietnam: Patients' Quagmire of Caring for Health versus Economic Destitution. *Int J Environ Res Public Health*. 2017;14:1118.
2. Sonal K, Premila J. Awareness of Health Insurance among people with special reference to Rajasthan (India). *Int J Business Quantitative Economics Applied Management Res*. 2015;12:21-31.
3. World Health Organization, South East Asia region. The world health report, 2014. India statistics summary (2002-present). Geneva: WHO: 2014.
4. Centre for Public Policy Research (CPPR). Available at: <https://www.cppr.in/article/health-insurance-and-telecom-markets-a-comparative-study/>. Accessed 2 November 2018.
5. Ambrish S. Current Situation of Health Care coverage in India. *ISPOR*. 2016;5(1):32-4.
6. Bharat A. Ministry of Health and Family welfare. Government of India. Available at: <https://www.abnhpm.gov.in/>. Accessed 2 November 2018.
7. Arogya Karnataka. Government of Karnataka. Health and Family welfare. Available at: <https://arogya.karnataka.gov.in/>. Accessed on 2 November 2018.
8. Indumathi K, Hajira SI, Gopi A, Subramanian M. Awareness of health insurance in a rural population of Bangalore, India. *Int J Med Sci Public Health*. 2016;5(11):1-6.
9. Harish BR, Siddalingappa H, Bharath J. Health insurance coverage and healthcare expenditure pattern in rural Mandya, Karnataka. *Int J Community Med Public Health*. 2018;5:1519-23.
10. Baisil S, Sathyanath S, Kundapur R. Types of health insurance and its utilization in a primary, secondary and tertiary care setting in coastal Karnataka. *Int J Community Med Public Health*. 2017;4:1758-61.
11. Madhukumar S, Sudeepa D, Gaikwad V. Awareness and perception regarding health insurance in Bangalore rural population. *Int J Med Public Health*. 2012;2:18-22.
12. Reshmi B, Sreekumaran NN, Sabu KM, Unnikrishnan B. Awareness of health insurance in a South Indian population—a community-based study. *Health Population Perspec Issues*. 2007;30(3):177-88.

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