Section: Community Medicine

Original Research Article

A CROSS -SECTIONAL STUDY ON AWARENESS AND UTILIZATION OF HEALTH INSURANCE AMONG RURAL POPULATION OF THIRUVALLUR, TAMIL NADU

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ABSTRACT

Background: Universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. Protecting people from the financial consequences of paying for health services out of their own pockets reduces the risk that people will be pushed into poverty. One of the tools for achieving universal health care is health insurance.

Materials and Methods: This Community based cross -sectional study was conducted among 350 study participants in rural area of Thiruvallur, Tamil Nadu during January 2024 to October 2024.The family register maintained at the Katchur Block Primary Health Centre (PHC) was taken as sampling frame and using simple random sampling the families were selected, the head of the family or in his/her absence the eldest adult in the family was chosen as the study participant & data was collected using a pre tested semi-structured questionnaire by interview method after obtaining informed consent. Data were compiled and entered in MS Excel 2019 and analysis was done using SPSS Software version 23.

Results: Among 350 study participants, the awareness on health insurance was on higher side of 85% among the study participants with males having slightly better awareness to that of females. Among those who were aware of health insurance schemes, only 79% of them have got coverage under any one of the schemes. Out of those who got covered, only 28% of them utilized it in the past 1 year. Age and gender were the only factors found to have statistically significant association with health insurance awareness, coverage, and utilization.

Conclusion: There exists gap between awareness, coverage and utilization of health insurance as shown by the study results. This can be improved by measures such as incorporating details of empaneled hospitals, coverage amount and services list in the propagandas planned in future to make people aware of these, launching a web-based application for real time follow up of application and outcome to improve transparency and accountability.

Key word: Health Insurance, awareness, Utilization.

INTRODUCTION

Every person has a fundamental human right to obtain healthcare services, according to the World Health Organization (WHO) and it is the duty of the government to ensure that these services are always accessible and acceptable.[1]

Universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. Protecting people from the financial consequences of paying for health services out of their own pockets reduces the risk that people will be pushed into Poverty.[2] With population of about 142.9 crores till 2023, India

spends only 3% of its Gross Domestic Product for health expenditures and because of this over 54.78% of Indian population experiences out of pocket expenditures in health expenses.[3]

Health insurance is a way of providing relief to the financial hardships experienced by the families due to medical expenses. Health insurance came into India as a part of CGHIS (Central Government Health Insurance Schemes) and ESI (Employee State Insurance) act in 1948 for central and state government employees but in the private sector it was only launched in 1986.[4] Realizing this importance of the Health Insurance and to enhance its coverage to the rural and underserved, Central government have come up with scheme like Pradhan Mantri Jan Arogya Yojana (PM-JAY), and various state schemes like Chief Minister's Comprehensive Health Insurance Scheme (CMCHIS) in Tamil Nadu and Arogya shri in Andhra Pradesh and more.[5]

Ayushman Bharat, a flagship scheme of Government of India, was launched as recommended by the National Health Policy 2017, to achieve the vision UHC. This initiative has been designed to meet Sustainable Development Goals (SDGs) and its underlining commitment, which is to "leave no one behind." It comprises of two interrelated components, which are - Health and Wellness Centres (HWCs) & PM-JAY.[6] PM-JAY is the world's largest health-insurance/assurance scheme that offers health cover to nearly 12 crore poor families which form 40% of its population. The prime objective of PM-JAY is to reduce catastrophic out-of-pocket health expenditure by improving access to quality health care for its underprivileged population.[6]

Despite the efforts from both central and state governments, the situation of health insurance coverage in India is far from ideal. As per National Health and Family Survey -5 (NFHS-5) 2021 reports, only 41% of the households in India have at least one member covered with any form health insurance and between 2019 and 2021, just 30% of women and 33% of males between the ages of 15 and 49 were protected by insurance for health or finance programs.[7]This reduced uptake of Health Insurance schemes among Indians, even after various schemes provided by Government and Private can be attributed to low level of awareness, difficulty in choosing right packages and lack of coverage of insurance schemes for many required services.[8] This study is thus planned to assess the awareness of any form of health insurance, its utilization and factors which influence the proper utilization of availed schemes among the rural and deserving population.

Objectives

- To assess the awareness of Health Insurance among rural population of Thiruvallur, Tamil Nadu.
- To estimate the utilization of Health Insurance among rural population of Thiruvallur, Tamil Nadu.
- To determine the factors associated with awareness and utilization of health insurance among rural population of Thiruvallur, Tamil Nadu.

MATERIALS AND METHODS

This study is a Community Based Cross -Sectional study conducted among the Residents of the villages covered under Government Primary Health centre, Katchur which is the field practicing area of Government Thiruvallur Medical College. The study was conducted during January 2024 - October 2024. Residents of the study area who were aged above 18 years of age were included in the study excluding those who were not willing to give consent and those who are known psychiatric illness patients.

Sample size Sampling Technique: As per NFHS-5 2021 survey,[7] 71.4% of rural households in Tamil Nadu have at least one regular resident covered by any form of health insurance and using this value as prevalence (p) in sample size formula 4pq/d2 at 95% confidence level and absolute precision (d) of 5%. The minimal sample size calculated was 314. Accounting for 10% of non-response rate the final sample size arrived is 350. Katchur Block PHC area covers 1,00,200 population with around 5000 families. The family register maintained at the PHC was taken as sampling frame and using simple random sampling by lottery method the families were selected and the head of the family or in his/her absence the eldest adult in the family was chosen as the study participant and this process was continued till the required sample size was achieved.

Data Collection: After obtaining permission from the Institutional Ethics Committee (IEC), Data collection was be done by house to house visit and the head of the family or in his absence the eldest adult of the family was interviewed after obtaining written informed consent using pre tested semi‑structured questionnaire in their local language. The questionnaire comprised of details regarding socio-demographic characteristics, awareness, and utilization of health insurance in the past 1 year.

Data Analysis: After the data collection, Data were compiled and entered in MS Excel 2019 and analysis was done using SPSS Software version 23. Quantitative variables were expressed as mean and Standard Deviation or Median and Inter Quartile Range depending on their distribution. Categorical variables were expressed as proportions. Univariate analysis (Chi-Square test) and Fisher exact tests were used to determine the association between the socio-demographic factors and the awareness and utilization of health insurance scheme. Tests of significance 2 tailed, and the significance level was set at $P < 0.05$.

Ethical Clearance: The study was conducted after obtaining prior approval from Institutional Ethics committee (IEC/NO/4/2022) of Government Thiruvallur Medical College. The participants were

included in the study only after obtaining their written and informed consent. No invasive or harmful procedures were carried out on the participant. Privacy and confidentiality of the study participants were maintained throughout the study.

RESULTS

The mean age of the study participants was 47.7 ± 14.2 years, with a minimum and maximum age of 18 and 86 years respectively. Females (57%) form the majority among population. Majority of them have studied up to higher secondary level (23.1%), while 9% of them have no formal education.

Out of 350 study participants, 36% were not employed, 29% of them were employed in the form of Un- skilled work. According to Modified BG Prasad Scale, study participants predominantly belonged to lower middle (31.4%) and middle (27%) classes.

Table 1: Shows the socio-demographic characteristics of the study participants

Socio-demographic characteristics	Number of study participants, n (%)
Gender	
Male	151(43)
Female	199(57)
Age in years	
<30	47(13.4)
30 – 45	101(28.9)
46 – 59	141(40.3)
≥60	61 (17.4)
Education status	
Illiterate	32(9.1)
Upto Primary School	76(21.7)
Upto Middle School	46(13.1)
Upto High School	72(20.6)
Upto Higher Secondary	81(23.1)
Graduate and above	43(12.3)
Occupation	
Unemployed	125 (35.7)
Unskilled	103(29.4)
Semi-Skilled	8(2.3)
Skilled	29(8.3)
Clerical/Shop/Farmer	74(21)
Semi-Professional	6(1.7)
Professional	5(1.4)

Among the 350 study participants, 296 (84.6%) of them had awareness on at least one health insurance scheme available currently including both government and private. The awareness on only the government provided health insurance was found to be predominantly higher (64%). The awareness on health insurance among study participants was obtained from various sources as depicted in figure 1. Among the participants who were aware of health insurance, 31% of them only knew that health insurance can be provided by both government and private sectors and nearly 5% of them did not knew about the provider of health insurance, even though they were aware of the names of schemes. [Figure 1]

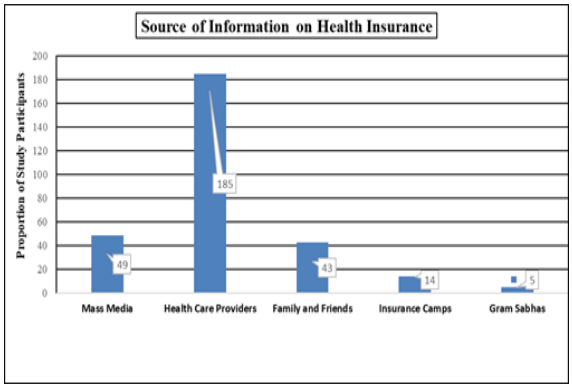

Figure 1: shows the sources of information on health insurance for study participants (n=296)

Table 2: Awareness on the aspects of Health Insurance among study participants (n=296)

Aspects of Health Insurance	Study participants, n (%)
Applicability of Health Insurance	
Individual only	29(9.8)
Family only	117(39.5)
Both	126(42.6)
Do not know	24(8.1)
Provider of Health Insurance	
Government only	190(64.2)
Private only	1(0.3)
Both	91(30.7)
Do not Know	14(4.8)
Usage of Government Provided scheme	
Only in Government Hospitals	139(47)

Both in Government and Private Hospitals	81(27)
Do not know	76(26)

Regarding the benefits and services covered under health insurance scheme, provision of free medical care (23%) and free surgery (15%) were cited by majority of them and nearly 27% of them were not aware of the benefits and services provided under any health insurance schemes.

Out of 296 study participants who were aware of any health insurance scheme, 234 (79%) of them only had availed for its coverage. Out of those who were covered by health insurance of any form, Government sector provided health insurance forms a major chunk by covering nearly 97%. Coverage for the entire family is the type chosen by 85% of the participants in the study. Self- motivation was cited as the major reason (66%) for availing health insurance schemes and 30% of the study participants availed health insurance only after hospital or health institutions directed them to do it as it was said to be compulsory for availing services.

Only 66 participants out of 234 (28%), who were under coverage of health insurance have utilized it in the past one year. The details regarding the utilization in the past one year is provided in the table 2.

Table 3: Details regarding utilization of Health Insurance in the past 1 year among study participants (n=66)

Details of Health Insurance utilization	Number of study participants, n (%)
Frequency of utilization	
Only once	59(89.5)
Twice	6 (9)
More than twice	1(1.5)
Purpose of Utilization	
Admission and treatment only	20(30)
For Surgery	31(47)
For Diagnostics purpose only	15(23)
Beneficiary	
Self	38(57.5)
Spouse	17(25.7)
Children	7(10.6)
Parents	4(6.2)

Among the 168 study participants who have not utilized health insurance in the past 1 year despite availing it, 106 (63%) of them have visited hospital but not utilized the services and the remaining 37% have not visited hospital at all for treatment in the past 1 year as per their statement. The reasons cited by them were; availed services in healthcare institutions run by public sector (41%), saving it for the usage in major health problems in future (10%), getting service at a center which was not covered by their health insurance card (5%) and other 5% availed service in a hospital which was not empanelled under the CMCHIS scheme

Table 4: Association between Socio-demographic factors and awareness of Health Insurance schemes among study participants (n=350)

Socio-demographic Factors	Awareness of Health Insurance		p value
	Yes (%)	No (%)	
Gender			
Male	122(80.8)	29(19.2)	**0.04****
Female	154(78.5)	45(21.5)	
Age Category, years			
≤ 30	38(80.9)	9(19.1)	0.809*
30-45	85(84.2)	16(15.8)	
46-60	122(86.5)	19(13.5)	
>60	51(83.6)	10(16.4)	
Education status			
No Formal Education	27(84.4)	5(15.6)	0.994#
Upto Middle school	103(84.4)	19(15.6)	
Secondary & High secondary	129(84.3)	24(15.7)	
Graduate & above	37(86)	6(14)	
Occupation			
Unemployed	106(84.8)	19(15.2)	0.578#
Unskilled &Skilled	121(86.4)	19(13.6)	
Farmer/Clerical/ Business	59(79.7)	15(20.3)	
Semi-Professional & Professional	10(91)	1(9)	
Socio-Economic Status			
Lower	32(86.5)	5(13.5)	0.234#
Lower Middle	93(84.5)	17(15.5)	
Middle	83(87.4)	12(12.6)	
Upper Middle	61(77.2)	18(22.8)	

Upper	27(93.1)	2(6.9)	

**Chi-square Test; p<0.05 was considered significant*
 # Fisher-Exact test; p<0.05 was considered significant

Awareness among males (80.8%) was found to be higher compared to that of females (78.5%) and the gender was the only factor found to be statistically significant

Table 5: Association between Socio-demographic factors and coverage of Health Insurance schemes among study participants (n=350)

Socio-demographic Factors	Coverage of Health Insurance		p value
	Yes (%)	No (%)	
Gender			
Male	96(63.6)	55(36.4)	0.256*
Female	138(69.3)	61(30.7)	
Age Category, years			
≤ 30	22(46.8)	25(53.2)	**0.003****
30-45	67(66.3)	34(33.7)	
46-60	107(75.9)	34(24.1)	
>60	38(62.3)	23(37.7)	
Education status			
No Formal Education	24(75)	8(25)	0.783*
Up to Middle school	81(66.4)	41(33.6)	
Secondary& Higher Secondary	101(66)	52(34)	
Graduate & above	28(65)	15(35)	
Occupation			
Unemployed	77(61.6)	48(38.4)	0.531#
Unskilled &Skilled	98(69.3)	43(30.7)	
Farmer/Clerical/ Business	52(70)	22(30)	
Semi-Professional & above	8(73)	2(7)	
Socio-Economic Status			
Lower	27(73)	10(27)	0.234*
Lower Middle	75(68)	35(32)	
Middle	58(61)	37(39)	
Upper Middle	52(65.8)	27(34.2)	
Upper	22(76)	7(24)	

**Chi-square Test; p<0.05 was considered significant*
 # Fisher-Exact test; p<0.05 was considered significant

Coverage among females (69.3%) was found to be higher compared to that of males (63.6%). Coverage was also found to be higher among the age group of 46-60 years (76 %) and this was the only factor found to be statistically significant.

Table 6: Association between Socio-demographic factors and utilization of Health Insurance schemes in past 1year among study participants who were covered (n=234)

Socio-demographic Factors	Utilization of Health Insurance		p value
	Yes (%)	No (%)	
Gender			
Male	36(68)	59(62)	**0.013****
Female	30(22)	109(78)	
Age Category, years			
≤ 30	6(27.3)	16(72.7)	0.821*
30-45	21(31.3)	47(68.7)	
46-60	26(24.3)	80(75.7)	
>60	13(34.2)	25(65.8)	
Education status			
No Formal Education	9(37.5)	15(62.5)	0.466#
Upto Middle school	23(28.4)	58(71.6)	
Secondary & Higher Secondary	30(29.7)	70(69.3)	
Graduate & above	4(14.3)	25(85.7)	
Occupation			
Unemployed	20(26)	57(74)	0.948#
Unskilled &Skilled	26(26.8)	70(72.2)	
Farmer/Clerical/ Business	17(32.7)	35(67.3)	
Semi-Professional & Professional	3(37.5)	6(62.5)	
Socio-Economic Status			
Lower	9(33.3)	18(66.7)	0.102*
Lower Middle	30(40)	45(60)	
Middle	14(25)	43(75)	
Upper Middle	10(19.2)	43(80.8)	
Upper	3(13.6)	19(86.4)	

**Chi-square Test; p<0.05 was considered significant*
 # Fisher-Exact test; p<0.05 was considered significant

Utilization of Health Insurance among males (68%) was found to be higher compared to that of females (22%) and this was found to be statistically significant. The utilization was also found to be higher among the age group of >60 years (34 %). Participants who did not have a formal education (37.5%), working as semi-professionals and above (37.5%) and belonging to lower middle class in socio-economic status (40%) were found to have higher utilization compared to others.

DISCUSSION

The study results showed that the awareness was on higher side of 85% among the study participants with males having slightly better awareness to that of females. Among those who were aware of health insurance schemes, only 79% of them have got coverage under any one of the schemes. Out of those who got covered, only 28% of them utilized it in the past 1 year.

In our study, the awareness of health insurance was found out to be 85%. A study conducted in a similar setting by Jayakiruthiga et al,[9] have reported the awareness of health insurance as 81.5%. Studies conducted by Unnikrishnan et al,[10] and Sriee GV et al,[11] in other areas of south India have also reported awareness on higher side of 74.4% and 77.3% respectively. A study conducted in rural area of Bihar,[12] reported the awareness as 51% and study conducted to assess the awareness of health insurance among rural population of Jammu,[13] has reported the awareness on lower side of 28.15%. This shows that awareness of health insurance has geographical variation also and this can be attributed to various socio-cultural differences existing including the literacy rate.

Regarding the source of information of health insurance, mass media followed by friends and families were found to be the major source as per previous studies conducted by Raja TK et al,[4] and Unnikrishnan et al,[10] and this was in contrary to the findings of the current study which showed that Health care workers played a major role in spreading awareness and this was noted as a positive change. Among those who were aware of the health insurance schemes, majority of them were aware of only state government provide CMCHIS scheme only, similar result was also noted in a study conducted in rural population in Tamil Nadu.[4] The awareness of health insurance is found to be on higher side among males compared to females in our current study and this was found to be statistically significant. Similar result was also recorded in studies conducted among rural population in south India by Indhumathi et al,[5] and Raja TK et al.[4]

Study participants in the current study having higher education qualification and employed as semi-professional and above and those who belong to Upper class as per socio- economic status were found to be have higher awareness. Similar study conducted by Prasad et al. in rural areas of Bihar,[12] have found significant association between occupation and awareness of health insurance. A study conducted to assess the factors influencing the awareness of health insurance among rural population of Karnataka also showed the presence of significant association between occupation, education and socio-economic status of the study participants and their health insurance awareness.[14]

Coverage and Utilization of Health Insurance

The coverage of health insurance among study participants who were already aware was found to be 79% in the present study and this finding correlates with the finding of 71% coverage of health insurance among rural population as per NFHS-5 survey data for Tamil Nadu.[7] In the present study, all participants who were aware of health insurance does not have coverage and it was noted that 21% of aware participants have not subscribed to insurance and this finding is relatable to the finding of study conducted by Unnikrishnan et al,[10] which reported 29% of participants were aware but have not enrolled. The difference in the awareness and availing coverage of health insurance can be attributed to the behavioral reasons as most of the study participants had the reply of availing health insurance whenever the need arises.

In the present study, majority of study participants have availed coverage under health insurance schemes provided by government sector (97%). Similar findings were reported by study conducted in rural area of Karnataka which recorded 96% coverage by government health insurance.[5]

The reason specified by study participants in the present study for enrolling in health insurance was free medical care and avoiding expenditure but nearly 27% among them had no awareness on the benefits of having an insurance coverage. Similar reasons were cited in the findings of studies conducted by Goyal et al,[15] and Jayakiruthiga et al.[9]

In the present study, coverage of health insurance was found to be higher among males compared to females. The study results also showed the increased coverage among upper class participants and similar result was showed by Study conducted by Goyal et al. among urban and rural households of Haryana.[15] Study on health insurance utilization conducted among rural area of Karnataka,[14] have reported significant association between coverage of health insurance and education status, occupation, and socio- economic status of the study participants which is contrast to the present study findings which noted significant association only among age category. This might be due to the post pandemic increase in demand on both life insurance and health insurance among the population.

As per the current study, utilization of health insurance in the past 1 year was found to be 28% among participants who have coverage already. This was on the lower side compared to 47.24% as reported by the study conducted to assess the utilization of Ayushmann Bharat among rural

population in Tamil Nadu.[11] Similar study conducted by Hegde et al. reported 51.4% of health insurance utilization in the past 1 year by its participants.[16] Study conducted in a rural area of Bihar to assess the utilization of Ayushmann Bharat scheme reported meagre 1.3%.[12] This shows the gross geographical variation in utilization of health insurance schemes.

As the above findings denoted, increase in awareness and coverage of Health Insurance did not transforms into utilization always. The reasons cited by the participants of current study for poor utilization of insurance schemes were: not necessary to use the scheme for present condition, keeping the insurance for major health problems in future and concerns due to the coverage of service availed by them or empanelment status of the hospital where they got their service. This shows their lack of awareness on the purpose and mode of its usage and hence it affects the main purpose of reducing out of pocket expenditure by health insurance coverage.

Few study participants have raised concerns on the lack of proper information on the services covered under health insurance schemes and whether the hospital in which they avail service is empaneled under the scheme under which they have coverage. This shows us the awareness on the health insurance through the information, Education and Communication (IEC) activities should not stop only at the names and mode of availing services. The IEC activities should also cover the benefits of coverage; services covered under the schemes and it should include the list of empaneled hospitals as per the local needs so that utilization will improve as that of awareness and coverage.

The study provides recommendations such as: that setting up help desk for health insurance in every health facility, implementing special health insurance camp drives, setting up district specific web based real time portal which is freely accessible for all such that it aids in tracking the status of their claims and serve the purpose for reviewing the scheme at the district level. The measures recommended above from the observations in the study can aid in improving the coverage of health insurance.

Limitations

The study involves the questionnaire method of assessing the coverage of health insurance and this might have a chance of social desirability bias as the participants have felt giving the desirable answer. The study also did not include the component of out-of-pocket expenditure incurred by the study participants who did not have coverage or not utilizing health insurance even after availing it.

CONCLUSION

There exists gap between awareness and coverage or utilization of health insurance and the study recommends incorporating details of empanelled hospitals, coverage amount and services while planning future IECs, launching a web-based application for real time follow up of application and outcome to improve transparency and patient friendly of the schemes can be helpful in making awareness turning into availing coverage and its actual utilization.

Conflict of interest: Nil

Competing interest: Authors declare no conflict of interest

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