Is there a need to cover all households under health insurance schemes: A cross-sectional study in a rural area of Jammu

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ABSTRACT

Background: For tackling unforeseen health expenditure and improving healthcare accessibility in general, it is important that people should not only be aware but also be covered under health insurance schemes. The present study was conducted with the aim to assess the health expenditure, health insurance awareness, and coverage among rural households.

Materials and Methods: This was a community-based cross-sectional study carried out in randomly selected families falling under a rural health block in Jammu district of Jammu & Kashmir, Union Territory. A predesigned, pretested, and semistructured questionnaire was used for data collection.

Results: A total of 380 families were surveyed, of which 14.5% belonged to the priority household group. Among the priority and nonpriority households, 8.80% and 5.69% of monthly income were spent on health-related activities and 9.91% of household expenditure was on health. A total of 24.32% of priority households had even borrowed money to meet health expenditures. A total of 28.15% families had heard about the Ayushman Bharat scheme. Attitude towards health insurance was positive in both groups. A total of 29.23% of nonpriority households and 14.54% of priority households had health insurance coverage.

Conclusion: A significant proportion of household expenditure was health related. The absence of good insurance coverage raises the need for policies and laws to cover all the households under health insurance schemes.

Keywords: Awareness, health expenditure, health insurance, rural area

Introduction

As per the words of the WHO Director-General, no individual should not only be aware but also be covered under health insurance schemes. This statement reflects the extent of commitment that is needed by all the countries in the world to achieve “Health for all” which is not only a slogan but a steering principle behind the World Health Day Theme, Universal Health Coverage for the year 2018 and 2019. The term “Universal” in Universal Health Coverage (UHC) reflects the idea of reaching out to all the people without discrimination. UHC thus stresses that everyone everywhere has the right to health and obtaining essential health services without falling into poverty. Health insurance (HI) promotion and utilization can play a key role in achieving the UHC target of sustainable development goals.

It is estimated that approximately half of the world's population is still lacking access to essential health services. Almost 100 million people worldwide are pushed to extreme poverty as a consequence of unforeseen health expenditure. Nearly 12% of this population is suffering owing to catastrophic health...

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expenditures.[2–3] Every year health expenditure becomes an economic burden for about 20 million people in India.[4]

In India, according to NFHS-4, the households with any usual member covered by a health scheme are 28.7% (28.2% and 29.0% among urban and rural areas).[5] In contrast, Health NSS 75th round (2017–2018) reported that 14% of the rural population and 19% of the urban population have health expenditure coverage.[6] Several studies conducted in the Indian subcontinent have reported awareness level about health insurance to be ranging from 11% to 45.5%.[7–12]

Health insurance coverage and utilization among rural people can serve as an important tool for curbing out-of-pocket expenditure and improving health status in general. Thus, it is of utmost importance that people should recognize the need and importance of health insurance. Owing to the dearth of studies on this topic, in this part of the country, this study was conducted to assess household expenditure on health, pattern of health care utilization, and health insurance coverage among rural households belonging to different socioeconomic groups.

Materials and Methods

This cross-sectional, community-based study was conducted among randomly selected families in the Ranbir Singh Pura (RS Pura) block of Jammu district in the Union territory of J&K. The main source of livelihood of the population is agriculture. In terms of religion, this area has a mixed population, predominantly comprising of Hindus and Sikhs (IEC/GMC/2019/760).

The R.S.Pura block is near the Jammu city and is adjacent to the Indo–Pak border with a total area of 273 sq km and an average density of 658/sq km. R.S.Pura town of the block is spread over 13 wards and has a population of 12,812. For the purpose of this study, only the rural area of the block was considered. The rural area is divided into eight health zones and two of these were picked up using a simple random technique. The villages falling under the jurisdiction of these two zones were mapped. Using a 30 x 7 cluster technique, a primary sampling frame was drawn from each of the blocks. Each village was considered a cluster and 30 such villages were selected based on the population proportion of size (PPS) technique. Thereafter, seven individuals of a selected village were selected randomly for structured interviews to collect the required information. Thus, the sampling frame consisted of 420 individuals above 30 years of age representing over 60 villages of the rural area of RS Pura block. The study was carried out from September 2019 to December 2019. Data collection was done for the first three months only and one month was devoted to compiling the results and data analyses. The sources of data were adults aged >30 years, preferably head of the family, residing in the selected research area.

**Inclusion criteria**

All the adults aged above 30 years agreeing to participate in the current study.

**Exclusion criteria**

Those who did not give consent or were not available even after visiting the household twice were excluded.

**Method of data collection**

After obtaining ethical clearance from the Institutional Ethical Committee, GMC, Jammu (IECGJ), a briefing meeting was held regarding the research with key persons and field staff for ensuring their support and cooperation during data collection. Thereafter, data collection was conducted by house to house visit. On reaching a particular household, the researcher first introduced herself to the family members (who were present) and explained about the purpose of this study in their local language. It was ensured to the participant that the collected data was for mere research and no specific identifier like name, parentage, etc., would be collected in this study. Thereafter, verbal informed consent was sought from the eligible candidate and participation in the study was voluntary. A total of 380 individuals responded by agreeing to be a part of the study, thereby yielding a response rate of 90% which was considered adequate to answer the research question. The investigators interviewed eligible candidates using semi-structured interview Performa. For ease in understanding of the questions by the study participants, interviews were held in the local language i.e., Dogri, Hindi, and/or Punjabi. On average, each interview lasted for 25–35 minutes.

**Study instrument**

The study instrument was developed by the authors using a review of literature from the relevant studies and was duly pretested before being put to use. The semistructured proforma consisted of two parts. Information was collected regarding the following variables:

Part 1: Sociodemographic factors like the number of family members, type of family, type of ration card of the family (priority households including Antyodya (PHH) and nonpriority households (NPHH)) monthly income (from all sources) and expenditure, and pattern of utilization of health services

Part 2: Awareness about health insurance and Ayushman Bharat scheme.

**Statistical analyses**

The data collected were entered in Microsoft excel 2007. The qualitative data was presented as percentages and quantitative data as mean (±SD). Chi square test was used to find the association using SPSS 20.0. The level of significance was set at a P value of <0.05.
Results

A total of 380 families were included in the study out of which 325 (85.5%) belonged to the NPHH Category and 55 (14.5%) belonged to the PHH Category. The mean number of family members in the NPHH group was 4.75 ± 1.31 and in the PHH group was 4.61 ± 1.31. There was no significant difference between the number of family members among the two groups (t = 0.725 and P = 0.469).

There was a significant difference in the monthly income, expenditure, and health expenditure of households belonging to the NPHH and PHH groups (P = 0.00) [Table 1]. In the PHH households, 83.95% of the total monthly income was spent as household expenditure in items like food, clothing, education, health, and personal expenses, thereby indicating that they were able to save only 16.05% of their income at the end of the month and interestingly 8.80% of their monthly income was spent on health-related activities. The similar figures among NPHH were 57.72% of monthly income spent as household expenditure, 42.28% as savings, and 5.69% of total monthly income was spent on health‑related activities. When analyzing in terms of expenditure, out of the total monthly household expenditure, 9.91%, 9.87%, and 10.49% was spent on health by total households, NPHH, and PHH respectively.

Among the NPHH group, the occupation of HOF showed that 49.5% were in service followed by agriculture (24.6%) and business (13.8%) whereas among the PHH group, the maximum HOF had agriculture as their occupation (38.2%) followed by semiskilled workers (construction; 20.0%) and service (18.2%). In the NPHH group, 79.7% of HOF had permanent jobs whereas in the PHH group 6.9% were employed on a permanent basis. A significant number of PHH families (85.5%) felt that their earnings were not enough and 61.8% did not have savings, 67.27% PHH families had to borrow money, and the main reasons for borrowing were to meet consumption expenditure (45.94%) followed by expenditure on health (24.32%) whereas 10.09% of NPHH families had to borrow for health‑related expenditures. There was a significant difference among NPHH and PHH families for all the variables studied under financial attributes (P = 0.00), as shown in Table 2.

In both the groups, 43.15% of the households had family members on medication for chronic diseases like hypertension, diabetes mellitus, osteoarthritis, etc., The allopathic system was preferred and a total of 55.48% visited the government health care system and reasons for the preference of government set-up among PHH families was less money spent and free medicines. A total of 7.63% of the total households have a

### Table 1: Monthly income and expenditure of the surveyed households

| Variable                               | NPHH mean±SD   | PHH mean±SD   | Total mean±SD | t    | P    |
|----------------------------------------|----------------|---------------|---------------|------|------|
| Total monthly household income (INR)   | 36673.23±27750.19 | 9572.72±6106.62 | 32750.78±23214.86 | 8.782 | 0.00 |
| Total monthly household expenditure (INR)| 21168.46±10789.15 | 8036.36±5135.54 | 19267.76±11165.78 | 8.85 | 0.00 |
| Total monthly expenditure on health (INR) | 2090.46±389.39 | 843.63±77.88 | 9572.72±6106.62 | 5.469 | 0.00 |

### Table 2: Financial attributes in terms of savings and borrowing of the surveyed population

| Variable                                | NPHH n (%) | PHH n (%) | Total n (%) | X²   | P    |
|-----------------------------------------|------------|-----------|-------------|------|------|
| Whether earning are enough             |            |           |             |      |      |
| Yes                                    | 219 (67.4) | 8 (14.5)  | 227 (59.73) | 54.60 | 0.00 |
| No                                     | 106 (32.6) | 47 (85.5) | 153 (40.2)  |      |      |
| Do you have savings                    |            |           |             |      |      |
| Yes                                    | 273 (84.0) | 21 (38.2) | 294 (77.36) | 56.39 | 0.00 |
| No                                     | 52 (16.0)  | 34 (61.8) | 86 (22.63)  |      |      |
| Modes of saving( main)                 |            |           |             |      |      |
| Post office                            | 21 (7.69)  | 5 (23.80) | 26 (8.84)   | 21.7 | 0.00 |
| Chit fund                              | 3 (1.09)   | 1 (4.76)  | 4 (1.36)    |      |      |
| Bank                                   | 227 (83.15)| 12 (57.14)| 239 (81.29) |      |      |
| Gold                                   | 17 (6.22)  | 0 (0.00)  | 17 (5.78)   |      |      |
| Others                                 | 5 (1.83)   | 3 (14.28) | 8 (2.72)    |      |      |
| Did you ever borrow from others        |            |           |             |      |      |
| Yes                                    | 109 (33.53)| 37 (67.27)| 146 (38.42) | 22.63 | 0.00 |
| No                                     | 216 (66.46)| 18 (32.72)| 234 (61.57) |      |      |
| Sources of Borrowing (main)            |            |           |             |      |      |
| Money lenders                          | 3 (2.75)   | 1 (2.70)  | 4 (2.73)    | 9.97 | 0.00 |
| Bank                                   | 42 (38.53) | 4 (10.81) | 46 (31.50)  |      |      |
| Friends and neighbours                 | 64 (58.71) | 32 (86.48)| 96 (65.75)  |      |      |
| Purpose of borrowing                   |            |           |             |      |      |
| To meet consumption expenditure        | 23 (21.10) | 17 (45.94)| 40 (27.39)  | 19.86 | 0.00 |
| To meet educational expenditure        | 22 (20.18) | 3 (8.10)  | 25 (17.12)  |      |      |
| To meet health expenditure             | 11 (10.09) | 9 (24.32) | 20 (13.69)  |      |      |
| To construct house/purchase house appliance | 33 (30.27) | 2 (5.40)  | 35 (23.97)  |      |      |
| Others                                 | 20 (18.34) | 6 (16.21) | 26 (17.80)  |      |      |
history of hospitalization of any family member during the last one year [Table 3].

Table 4 depicts that a considerable number of households (64; 16.84%) had not heard about health insurance and among PHH families these figures were 34.54%. Among those who had heard about health insurance, 118, i.e., 37.34% had heard that hospitalization cost is given to the beneficiary. Of the total sample, 28.15% had heard about the Ayushman Bharat scheme and among those who had heard, 31.77% and 21.49% knew about the eligibility criteria and benefits of the scheme, respectively. A total of 27.10% of the sampled households had availed health insurance and 15.5% had received its benefits during the last year. Only 14.54% of the PHH families had availed to health insurance compared to 29.23% of the NPHH families, although the attitude toward getting insured under a health insurance scheme was positive in both the groups. The common reasons given for not availing the health insurance by the families were lack of interest, lack of knowledge about the scheme, and lack of money for premium payment. The reason for the lack of money was considerably high among the PHH families as compared to the NPHH families (38.2% and 16.0%, respectively).

### Table 3: Health status and pattern of health services utilisation of the surveyed population

| Variable                                      | NPHH n (%) | PHH n (%) | Total n (%) | X²   | P   |
|-----------------------------------------------|------------|-----------|-------------|------|-----|
| Family member on medication for chronic disease |            |           |             |      |     |
| Yes                                           | 142 (43.69)| 22 (40.00)| 164 (43.15) | 0.26 | 0.60|
| No                                            | 183 (56.30)| 33 (60.00)| 216 (56.84)|      |     |
| Types of medicine used                         |            |           |             |      |     |
| Allopathy                                      | 128 (90.14)| 11 (50.00)| 139 (84.75) | 39.56| 0.00|
| Homeopathy                                     | 3 (2.11)   | 0 (0.00)  | 3 (1.82)    |      |     |
| Ayurveda                                       | 9 (6.33)   | 4 (18.18) | 13 (7.92)   |      |     |
| Other                                          | 2 (1.40)   | 7 (31.81) | 9 (5.48)    |      |     |
| Type of hospital visited                       |            |           |             | 7.13 | 0.00|
| Private                                        | 69 (48.59)| 4 (18.18)| 73 (44.51)  |      |     |
| Govt                                           | 73 (51.40)| 18 (81.81)| 91 (55.48)  |      |     |
| Reason for selecting the hospital              |            |           |             | 14.3 | 0.00|
| Less distance                                  | 16 (11.26)| 1 (4.54)  | 17 (10.36)  |      |     |
| Lesser finance                                 | 39 (27.46)| 15 (68.18)| 54 (32.92)  |      |     |
| Proper diagnosis/Free medicine/Better treatment/others | 87 (61.26)| 6 (27.27)| 93 (56.70)  |      |     |
| Was any family member hospitalized during the last year | 23 (7.07)| 6 (10.90)| 29 (7.63)   | 0.98 | 0.32|
| No                                            | 302 (92.92)| 49 (89.09)| 351 (92.36)|      |     |

### Table 4: Awareness and utilization of health insurance among the surveyed population

| Variable                                      | NPHH | PHH | Total  |
|-----------------------------------------------|------|-----|--------|
| 1. Have you heard about health insurance      |      |     |        |
| Yes                                           | 280  | 36  | 316    |
| No                                            | 45   | 19  | 64     |
| 2. Heard that Hospitalisation cost is given to the insured |      |     |        |
| Yes                                           | 107  | 11  | 118    |
| No                                            | 173  | 25  | 198    |
| 3. Have you heard about Ayushman Bharat scheme |      |     |        |
| Yes                                           | 90   | 17  | 107    |
| No                                            | 235  | 38  | 273    |
| 4. Do you know who are eligible for Ayushman Bharat scheme |      |     |        |
| Yes                                           | 25   | 9   | 34     |
| No                                            | 65   | 8   | 73     |
| 5. Are you aware of the benefits of this card to the poor |      |     |        |
| Yes                                           | 18   | 5   | 23     |
| No                                            | 72   | 12  | 84     |
| 6. Have you joined any Health insurance scheme |      |     |        |
| Yes                                           | 95   | 8   | 103    |
| No                                            | 230  | 47  | 277    |
| 7. Did you obtain any benefits from Health insurance scheme |      |     |        |
| Yes                                           | 13   | 3   | 16     |
| No                                            | 82   | 5   | 87     |
| 8. Do you want to get your family insured knowing that it has benefits like free treatment, hospitalisation and adds to savings |      |     |        |
| Yes                                           | 298  | 52  | 350    |
| No                                            | 27   | 3   | 30     |
Discussion

India is witnessing a health transition both in terms of demographic and epidemiological perspectives. The improvement in life expectancy and shift to chronic diseases has led to an increase in morbidity and health expenditure.[14] This study attempted to identify the current situation of health expenditure and health insurance among those belonging to different socioeconomic groups residing in a rural area of India. In the study, 9.91% of the household expenditure was found to be spent on health-related activities and not much difference was seen among the NPHH and PHH (9.87% and 10.49%, respectively). A total of 85.5% of the PHH did not have savings and 24.32% of these families had to borrow to meet the health expenditure. A study by Jayakrishnan T et al., reported that to meet health care expenditure, 68% rural families primarily depended on their household income/savings and 25% depended on borrowing. Even among the upper socioeconomic group, 23% from rural areas had borrowed money to meet the hospital expenditure.[13]

In the present study, utilization of Government health care institutions was by 55.48% households and among PHH it was as high as 81.81%. Preeti Tiwari et al., have reported that 44.16% of the households utilized Public Health facilities and as the socioeconomic status improved, the utilization of private health care facilities also increased among the participants.[19] These findings are similar to the results of the present study as 48.59% of NPHH had visited private health facilities as compared to 18.18% PHH. Similar results have been shown in a study that the observed maximum utilization of the private health sector among families belong to the upper socioeconomic class.[17]

While assessing the awareness and utilization of health insurance, the current study reported that 83% of the respondents had heard about health insurance. The results are in agreement with those reported by Gowda S et al., in the rural population of South India.[14] However, Netra G et al., and Choudhary ML et al., reported awareness levels of 65.7% and 57.25% in their respective studies.[12,19] Priyadarshini SP et al. reported awareness levels of 47.6% and 28.6% among urban and rural respondents, respectively.[13] A study among the urban community in Imphal reported that 62.7% of respondents were aware of health insurance.[20] Garge D et al., reported that 97% of the respondents were aware of health insurance.[23] This wide variation in the awareness levels may be attributed to the different literacy levels and socioeconomic status levels in the studied population. Reshmi Betal reported that the respondents of the upper and middle classes were more aware of health insurance as compared to those belonging to the lower socioeconomic class and these findings corroborate to our study wherein 86.15% of NPHH and 65.45% of PHH had heard about health insurance.[23]

The attitude toward health insurance was very positive in the current study. Although 92.10% households wanted to get their families insured, only 27.10% had joined a health insurance scheme (29.2% among NPHH and 14.5% among PHH). A high percentage of families willing to get enrolled under insurance schemes and less enrolment indicates an unmet need for health insurance coverage in these rural households. This issue needs redressal on a priority basis at the earliest. Madhukar S et al., reported that 83.1% respondents were willing to join health insurance but a majority preferred Govt health insurance and 22% had health insurance coverage.[10] Singh HD reported that 83.6% respondents were willing to join health insurance.[21] Shet N et al., and Netra G reported a coverage of 63.27% and 45.5%, respectively.[2,24] In the current study, 15.5% of the respondents had availed the benefits of health insurance indicating a low utilization. A total of 43.16% of households in the present study had patients on medications for chronic diseases. The primary care physicians, especially in rural areas, have noticed recent trends of increase of lifestyle-related disease. The chronic nature of these diseases coupled with the lack of coverage under insurance schemes, even if subscribed by the patients have an impact on the regular medication required by these patients.

It is an acknowledged fact that if the governments increase the percent spending on the health sector coupled with effective insurance policies, it can lead to a reduction in the number of households who are faced with out-of-pocket expenditure on health, thereby pushing them toward poverty. In view of this, the Indian Union and the State Governments are committed toward making health services accessible and affordable across all sections of the society. Ayushman Bharat scheme through its component of Pradhan Mantri Arogya Yojna (PMJAY) (launched on September 23, 2018), is the world’s largest health insurance scheme which provides cashless access to families.[23,26] Garg S et al., reported that hospital care remained underutilized even after enrollment under the PMJAY scheme.[27] In the present study, 28.15% of households had heard about this scheme. To ensure the successful utilization of this noble scheme, it is important that IEC campaigns are held to ensure proper percolation of this scheme to the desired levels.

Conclusion

Approximately, one-tenth of the total monthly household expenditure was spent on health by the surveyed households. A total of 15% of households have family members on medications for chronic diseases. In spite of health expenditure posing a burden on both the groups of households, the coverage of health insurance is low. Cost-effective health insurance schemes and behavioral change for HI utilization can bridge this gap in rural households.

Key messages

A positive attitude coupled with less coverage of health insurance among rural households indicates a high unmet need and redressal of this issue on priority. IEC to percolate the benefits of new initiatives like the PMJAY scheme to the masses.
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Conflicts of interest
There are no conflicts of interest.

References

1. WHO Director General. World Health day-speech. World Health Organization. 2018. Available from: https://www.who.int/dg/speeches/detail/world-health-day. [Last accessed on 2020 Jan 26].

2. WHO. Factsheet Universal Health Coverage. World Health Organization. Available from: https://www.who.int/news-room/fact-sheets/detail/universal-health-coverage-uhc. [Last accessed on 2020 Jan 26].

3. UN News. Half the world lacks access to essential health services – UN-backed report. Health 2017. Available from: https://news.un.org/en/story/2017/12/639272-half-world-lacks-access-essential-health-services-un-backed-report. [Last accessed on 2020 Feb 2].

4. Kadri AM. IAPSM’S Text Book of Community Medicine. 1st ed. New Delhi: Jaypee Brothers Medical Publishers; 2019. p. 960.

5. Ministry of Health and Family Welfare Government of India. Fact Sheet. National Family Health Survey (NFHS)-4, 2015-2016. Mumbai, India: International Institute of Population Sciences; 2017. Available from: https://rchiips.org › nfhs › nfhs-4reports › india/pdf.

6. National Sample Survey Office. Key Indicators of Social Consumption in India: Health. NSS 75th round (2017-18). New Delhi: NSSO, Ministry of Statistics and Programme Implementation, Government of India; 2019 Available from: http://www.mospi.gov.in/sites/default/files/publication_reports/KI_Health_75th_Final.pdf

7. Thakur H. Study of awareness, enrolment, and utilization of Rashtriya Swasthya Bima Yojana (National Health Insurance Scheme) in Maharshtras, India. Front Public Health 2016;7:82.

8. Pandve HT, Parulekar CV. Health insurance: Is Indian rural population aware? Int J Appl Basic Med Res 2013;3:132.

9. Reshmi B, Nair NS, Sabu KM, Unnikrishnan B. Awareness of health insurance in a south Indian population-a community-based study. Health Popul Perspect Issues 2007;30:177-88.

10. Madhukar S, Sudeepa D, Gaikwad V. Awareness and perception regarding health insurance in Bangalore rural population. Int J Med Public Health 2012;2:18-22.

11. Kusuma YS, Pal M, Babu BV. Health Insurance: Awareness, Utilization, and its Determinants among the Urban Poor in Delhi, India. J Epidemiol Global Health 2018;8:69-76.

12. Netra G, Rao BAV. A study on awareness, coverage and willingness to avail health insurance among the residents of a rural area in Central Karnataka. Natl J Community Med 2019;10:190-96.

13. Ministry of Law and Justice, Government of India. “National Food Security Act” 2013. Available from: https://dfpd.gov.in/fgAvAHcAchgBpAHQAZQByAGUYBkAGQAYQB0AGEAlwBQAGBAgBtAGEAbAaVAEa0AYQBnAGEAgpBpA G4AZQAVAEQAwbsBjAHAbQBlAG4AHAAgAVAA==/1_43_1_ NFS-Act-English.pdf. [Last accessed on 2020 Feb 18].

14. Rahman MM, Zhang C, Swe KT, Rahman MS, Islam MR, Kamrujjaman M, et al. Disease-specific out-of-pocket healthcare expenditure in urban Bangladesh: A Bayesian analysis. PLoS One 2020;15:e0227565.

15. Jayakrishnan T, Jeeja MC, Kuniyil V, Paramasivam S. Increasing out-of-pocket health care expenditure in India-due to supply or demand? Pharmacoeconomics 2016;1:6.

16. Tiwari P, Datta A. Out of pocket expenditure on health care among the households of urban area in Dakshina Karnataka. Natl J Community Med 2018;9:529-33.

17. Shwetha TM, Ashok J, Rajesh SS, Rajanna MS. Health service utilisation and out of pocket expenditure pattern in a defined rural population of Tumkur, India. Natl J Community Med 2018;9:266-9.

18. Gowda S, Manjunath C, Krishna D. Awareness about health insurance in rural population of South India. Int J Community Med Public Health 2015;2:648-50.

19. Choudhary ML, Goswami KI, Kambati SN, Shah VR, Makwana NR, Yadav SB. Awareness of Health insurance and its related issues in rural areas of Jamnagar district. Natl J Community Med 2013;4:267-71.

20. Priyadarssini SP, Ethirajan N. KAP on health insurance among selected rural and urban population of Chidambaram, Tamil Nadu. Int J Pharmaceutical Biological Arch 2012;3:838-41.

21. Singh HD, Rudrapal S, Sangma RJ. Awareness on health insurance among an urban community in Imphal: A cross sectional study. J. Evolutio Med Dent Sci 2016;5:1383-6.

22. Garge D, Tare S, Das S. A study on consumers understanding of health insurance benefits. J Dent Res Rev 2020;7(Suppl 52):62-4.

23. Reshmi B, Raghunath R, Unnikrishnan B. Awareness of health insurance among inpatients at a tertiary care hospital in coastal Karnataka. Indian J Community Med 2010;35:445-6.

24. Shet N, Qadir GJ, Saldanha S, Kanalli G, Sharma P. Awareness and attitude regarding health insurance among insured and non-insured: A cross sectional study. Int J Community Med Public Health 2019;6:4071-6.

25. National Health authority. Ayushman Bharat Pradhan Mantri Jan Arogya Yojana Beneficiary Empowerment Guidebook March 2019/3. Available from: https://www.pmjay.gov.in/sites/default/files/2019-03/Beneficiary%20Empowerment%20Guidebook.pdf. [Last accessed on 2020 Feb 20].

26. Dhaka R, Verma R, Agrawal G, Kumar G. Ayushman Bharat Yojana: A memorable health initiative for Indians. Int J Community Med Public Health 2018;5:3152-3.

27. Garg S, Bebarta KK, Tripathi N. Performance of India’s national publicly funded health insurance scheme, Pradhan Mantri Jan Arogya Yojana (PMJAY), in improving access and financial protection for hospital care: Findings from household surveys in Chhatisgarh state. BMC Public Health 2020;20:949.