INTRODUCTION

Health is a fundamental human right while wealth is an important constituent of human resource development. Good health increases human efficiency and wealth of society, decreases expenditure on sickness and diseases (1). Despite a significant demand for community-based health services, National spending on healthcare is only 1.2 per cent of total Gross Domestic Product (GDP) (2). Hence, even the poorest and least educated people in both rural and urban settings are forced to consult private practitioners more than government practitioners spending more than three-quarters of their spending as Out-Of-Pocket (OOP) expenses. The term Catastrophic Healthcare Expenditure (CHE) occurs when OOP expenses for healthcare services takes up such a large amount of the household’s income which makes them potentially face poverty. It can be defined as either more than 10% of total monthly consumption expenditure or more than 40% of the nonfood consumption expenditure (3). A person who has insured can walk into a health facility without fear of financial burden. Health Insurance (HI) protects most of the low to middle income citizens from the burden of emergency healthcare expenses thereby alleviating their financial pressure. (4).

‘Universal Health Coverage for all by 2030’ agenda has the goal of “ensuring everyone within a country can access the health services they need in a sufficient quality to be effective and providing all with financial protection from the costs of using health services”(5). This goal would be reached by implementing universal health insurance, a potential way of reducing health disparities and OOP health expenditure. In the last 8 years, a large amount of government’s money has been invested in the implementation of health insurance schemes. But the existing health insurance coverage is insufficient in achieving universal health coverage (6). The recent National Sample Survey (NSS) report reveals that 82% of urban and 85.9% of rural population have no access to any kind of health protection coverage which made them either to borrow or sell their assets (6) Also the awareness about existing Health Insurance Schemes is not satisfactory (7).
Hence, this study aimed to assess the awareness about health insurance among urban population of Puducherry and to explore the individual preferences regarding health insurance and their utilization pattern.

**METHODOLOGY**

This Cross Sectional Study was conducted at a village under the urban field practicing area of the institution after obtaining the clearance from the Scientific Research and Ethical Committees of institution. The sample size was estimated to be 234 with prevalence calculated from the previous study (8). The houses were chosen by Systemic Random Sampling method. Every 4th house was selected and if the house was vacant, immediate next house was taken for interview. Study Participants were Household head or their spouse or senior household (in their absence) who were aware of information aged above 21 years and who was willing to participate in the study were included in the study. The study was carried out for a period of 3 months. A semi-structured, pretested questionnaire consisting of demographic variables, knowledge and awareness regarding Health Insurances was used as data collection tool. The interviewer sensitized the family members in their respective houses about this study and their written consent was obtained. Confidentiality was assured. The data collected was entered in Excel and was analyzed using SPSS version 21. Mean, Standard Deviation and Proportions was calculated. Association was seen between socio-demographic characteristics and Awareness about Health Insurance. p value < 0.05 was considered as statistically significant.

**RESULTS**

Totally 234 participants were interviewed. Most of them were in the age group of 20-40 years of age (50.4%). Only 12 % of respondents were above 60 years of age. Females constituted about 65 %. Half of the respondents were Muslims (50.8 %). Majority of the respondents (76.1%) stayed in nuclear family. About 24 % of the respondents were graduates and none of them were illiterates. According to Modified Kuppuswamy’s classification of socio-economic status, 77% of the participants belonged to Class I SES, 12 % belonged Class II SES, 4 % belonged to Class III SES, 4 % to Class IV and 3% belonged to Class V . (Table 1)

About 126 (53.8%) respondents were aware of health insurance. Out of them, only 41 are having health insurance coverage. Among them, 31 reported that they are benefited from their scheme. Among those who were not having any Health Insurance scheme (82.5%) after the sensitization, only 33.7% are willing to purchase HI but 66.3% of the participants were not willing to obtain the same. The reasons for non-willingness as reported by them were too expensive plans, hard to understand the policies and no trust in insurance companies. [Figure 1 (a,b)].

| Characteristic of the respondents | Numbers (n) | Percentage (%) |
|-----------------------------------|-------------|----------------|
| **Age (years)**                   |             |                |
| 20-40                             | 118         | 50.4           |
| 40-60                             | 86          | 36.8           |
| >60                               | 30          | 12.8           |
| **Gender**                        |             |                |
| Male                              | 82          | 35             |
| Female                            | 152         | 65             |
| **Religion**                      |             |                |
| Hindu                             | 107         | 45.7           |
| Christian                         | 8           | 3.4            |
| Muslim                            | 119         | 50.8           |
| **Type of family**                |             |                |
| Nuclear                           | 178         | 76.1           |
| Joint                             | 46          | 19.6           |
| Extended                          | 10          | 4.3            |
| **Education**                     |             |                |
| Primary                           | 41          | 18             |
| Secondary                         | 48          | 20             |
| High School                       | 60          | 26             |
| Higher secondary                  | 28          | 12             |
| Graduate                          | 57          | 24             |
| **SES**                           |             |                |
| Upper                             | 181         | 77             |
| Upper middle                      | 27          | 12             |
| Lower middle                      | 10          | 4              |
| Upper lower                       | 9           | 4              |
| Lower                             | 7           | 3              |
| **Marital status**                |             |                |
| Single                            | 3           | 1.3            |
| Married                           | 230         | 98.3           |
| Widow                             | 1           | 0.4            |

**Figure 1 (b): Reason for not having HI among Participants**

- Health Insurance (HI) Awareness (126) 53.8%
- Having HI (41) 17.5%
- Benefited by HI (31) 75.6%
Participants who are having Health Insurance done by Thakur et al and their insurance was somewhat lower.

Characteristics and Willingness on HI

**Table 2:** Association between socio-demographic characteristics and awareness about HI

| Characteristics          | Aware n=126(%) | Not Aware n=108(%) | Chi-square (df) | p value |
|--------------------------|----------------|--------------------|-----------------|---------|
| Age (years)              |                |                    |                 |         |
| 20-40                    | 63 (50)        | 54 (50)            | 2.6683 (2)      | 0.2634  |
| 40-60                    | 43 (34.1)      | 44 (40.8)          |                 |         |
| >60                      | 20 (15.9)      | 10 (9.25)          |                 |         |
| Gender                   |                |                    |                 |         |
| Male                     | 78 (62)        | 74 (68.5)          | 1.1175 (1)      | 0.2905  |
| Female                   | 48 (38)        | 34 (31.5)          |                 |         |
| Type of family           |                |                    |                 |         |
| Nuclear                  | 102 (81)       | 76 (70.3)          |                 |         |
| Joint                    | 17 (13.5)      | 29 (26.9)          | 7.1861 (2)*     | 0.0275  |
| Extended                 | 7 (5.5)        | 3 (2.8)            |                 |         |
| Education                |                |                    |                 |         |
| Primary                  | 15 (11.9)      | 26 (24.1)          |                 |         |
| Secondary                | 29 (23)        | 19 (17.6)          |                 |         |
| High School              | 30 (23.8)      | 30 (27.8)          | 12.67 (4)       | 0.01    |
| Higher secondary         | 13 (10.3)      | 16 (14.8)          |                 |         |
| Graduate                 | 39 (31)        | 17 (15.7)          |                 |         |
| SES                      |                |                    |                 |         |
| Upper                    | 96 (76)        | 85 (78.7)          |                 |         |
| Upper middle             | 15 (12)        | 12 (11.1)          |                 |         |
| Lower middle             | 5 (4)          | 5 (4.6)            | 0.7646 (4)*     | 0.9431  |
| Upper lower              | 6 (5)          | 3 (2.8)            |                 |         |
| Lower                    | 4 (3)          | 3 (2.8)            |                 |         |

**Table 3:** Association between Socio-demographic characteristics and Willingness on HI

| Characteristics          | Willing n = 65 (%) | Not Willing n = 128(%) | Chi-square (df) | p – value |
|--------------------------|--------------------|------------------------|-----------------|-----------|
| Age (years)              |                    |                        |                 |           |
| 20-40                    | 31 (47.7)          | 63 (49.2)              | 1.1595 (2)      | 0.56      |
| 40-60                    | 24 (36.9)          | 52 (40.6)              |                 |           |
| >60                      | 10 (15.4)          | 13 (10.2)              |                 |           |
| Gender                   |                    |                        |                 |           |
| Male                     | 47 (72.3)          | 84 (65.6)              | 0.8829 (1)      | 0.3474    |
| Female                   | 18 (27.7)          | 44 (34.4)              |                 |           |
| Type of family           |                    |                        |                 |           |
| Nuclear                  | 52 (80)            | 93 (72.7)              |                 |           |
| Joint                    | 9 (13.8)           | 32 (25)                | 4.5595 (2)*     | 0.1023    |
| Extended                 | 4 (6.2)            | 3 (2.3)                |                 |           |
| Education                |                    |                        |                 |           |
| Primary                  | 10 (15.4)          | 27 (21.1)              |                 |           |
| Secondary                | 15 (23.1)          | 26 (20.3)              |                 |           |
| High School              | 18 (27.7)          | 34 (26.6)              | 6.735 (4)*      | 0.1505    |
| Higher secondary         | 4 (6.2)            | 20 (15.6)              |                 |           |
| Graduate                 | 8 (27.7)           | 21 (16.4)              |                 |           |
| SES                      |                    |                        |                 |           |
| Upper                    | 45 (69.23)         | 104 (81.3)             |                 |           |
| Upper middle             | 11 (16.92)         | 11 (8.6)               |                 |           |
| Lower middle             | 5 (7.69)           | 5 (3.9)                | 5.3059 (4)*     | 0.257     |
| Upper lower              | 1 (1.5)            | 4 (3.1)                |                 |           |
| Lower                    | 3 (4.6)            | 4 (3.1)                |                 |           |

Association between socio-demographic characteristics and awareness about HI reveals that there is a significant association between educational qualification and awareness about HI (p < 0.05). Graduates were more aware about HI than others. Also, participants residing in nuclear family were more aware when compared to those living in Joint family which is statistically significant. (Table 2)

**Table 4:** Comparison of monthly Out Of Pocket (OOP) health expenditure with or without HI

| OOP health expenditure (Rupees) per month | WITH HI n = 41 (%) | WITHOUT HI n = 193 (%) | Chi-square (df) | p – value |
|------------------------------------------|--------------------|------------------------|-----------------|-----------|
| Up to 500                                | 16 (39)            | 56 (29)                | 501-1000        | 19 (46.3) | 33 (17.1) | 25.2952 (3) | 0         |
| 1001-2000                                | 4 (9.8)            | 58 (30)                | Above 2000      | 2 (4.9)   | 46 (23.9) |            |           |

Association between socio-demographic characteristics and awareness about HI that there was a statistically significant reduction in the expenses among participants who are having Health Insurance (HI) and without Health Insurance. Association of the amount of money spent as out of pocket expenditure on health between the participants who are having Health Insurance (HI) reveals that willingness was more among participants 20 – 40 years of age group. Males were more willing compared to females because most of the women are housewives.

DISCUSSION

The mean age of the study participants were 44 years which is more than the participants in the study done by Bawa et al (9). In the present study the majority of the respondents were female (65%). This may be due to the timing of interview done i.e day time where most of the men had gone out for work. The study conducted by Sudir et al (10) had also reported similar result (female 69.4%) due to the same reason. Our study showed that 53.8% of the participants were aware about health insurance which was not satisfactory. This was lesser than the study done by Indumathi K.et.al (11) with 75.4% awareness but better than the study done by Thakur et al and Ramegowda et al (12, 13) which showed the awareness were 29.7% and 10.5% respectively. In our study 65% of the females are much more aware about HI compared to males whereas it
is vice versa in the study conducted by Bansal et al (14) where 51.3% of the male respondents and 32.4% of the female respondents were aware of health insurance. This also may be due to the predominant female participants as discussed earlier. Regarding the source of information, major sources were television and newspapers which is similar to the study by Choudhary et al (15). The study conducted by Yellaihah (16) showed that there was less awareness about health insurance among the respondents who are less educated (primary 2%). As the education qualification increases (graduates 16 % and post-graduates 6.5 %), it is clearly seen that the awareness among the respondents is being increased. In the present study also the graduates are more aware about (31%) HI compared to others. There is also a significant difference between educational status and awareness of the health insurance. In the present study, 85.4% of them perceive that HI is mainly to recover from future health expenses. The study conducted by Reshmi et al (17) had also reported that the purpose and benefit of health insurance as perceived by the respondents were not only cover their medical expenses but also useful for Tax benefits. Very few participants (17.5%) are being covered by some form of health insurance in this study and large portion of the population is still financing health care expenditure out of pocket. Among those who had HI 75.6% were benefitted from their present schemes. Among the rest, 33.7% were willing to purchase the schemes, while others think that it is an additional burden for their family as there is not an assured return of the premium they pay in cases of non-availing of Insurance.

**Conclusion:**
This study shows that even though half of the respondents are aware of health insurance, they are not utilizing the same. Media seemed to have played an important role in dissemination of information. There was a significant association between type of Family, Educational status and awareness about Health Insurance. Also, the expense spend by participants who are having HI is also significantly less than the participant without HI. Hence there is need to launch information, education and communication activities in order to make aware of various Government and Private HI schemes and the need of health insurance schemes to meet the ever rising medical expenses in view of unpredictable illness and injuries. Also health insurance companies should develop a better health insurance scheme that is accessible, available, affordable and acceptable to all sections of the society.

**Ethical approval:** The study was approved by the Institutional Ethics Committee

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