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# Assessment of Health-Care Expenditure for Health Insurance among Teaching Faculty of a Private University

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**Abstract:-**

- ***Background:***

**Health insurance gives the opportunity for people to finance their medical care so that they can alleviate some of their financial pressure.**

- ***Objectives:***

**The objectives are to estimate the health expenditure incurred by the teaching faculty and their households and assess the factors influencing those who have not subscribed to health insurance.**

- ***Materials and Methods:***

**A total of 150 teaching faculty of various institutes of a private university of 21–70 years age group were interviewed with the help of a pretested, semi-structured interview schedule.**

- ***Results:***

**Most of the faculty members (86.6%) spent ₹1 - ₹500 for doctor fees and diagnostics and around half the respondents (52%) spent ₹1 - ₹500 on medicines. Chi square test was performed and revealed that gender, age, marital status and health expenditure (Doctor Fees, Medicines) had a significant association with regard to non-insured respondents. ($p<0.05$)**

- ***Conclusion:***

**Different income and social groups have a different understanding and expectations regarding health insurance in India. It is important that we increase the awareness of the public with regard to the benefits of health insurance.**

***Keywords:-*** *Health Insurance, Teaching Faculty, Private University, Health Expenditure, Chi Square Test.*

## I. INTRODUCTION

Health risks, among the many risks faced by households, have been known to pose the greatest threat to lives and livelihoods. Financial provision becomes difficult for households due to uncertain timings of illness and its huge treatment costs. (1) Every year, more than 70 million Indians are impoverished because of medical expenses according to Berman et al. (2) Health insurance is an umbrella term for a wide variety of risk-pooling mechanisms ranging from social insurance to community-based insurance to private insurance. (3) Rapid increase in medical expenditure along with the family's consumption expenditure has caused people to rethink about financing of their health care systems. In India, health insurance is becoming prominent and being looked into as a way to provide good quality health care to the people and protecting them financially against the risk of illness. In the last two decades or so, it has become a major mechanism of health-care financing. Health insurance gives the opportunity for people to finance their medical care so that they can alleviate some of their financial pressure.

At present, only a small proportion (about 10 per cent) of the population is covered by any form of health insurance. More importantly, the private health insurance plans offered by both public and private insurance companies are mainly targeted to the urban middle and upper classes and settled job holders with regular flow of income and higher ability to pay.

Although it is needless to say health insurance is an important mechanism in the modern world to save the individuals from the huge health shock, a very high percentage of people even from educated higher income groups are not covered under any health insurance policy. At the same time, it is surprising that the health insurance sector has not made much headway in India. Health insurance actually gives partial reimbursement to the people for expenditure on selected diseases. With rapidly increasing medical cost, there is a need to get a back-up from the health insurance plan especially, to finance the expensive medical treatment and to ease the health system financial burden. (4,5)

The present study is an effort to assess the health care expenditure for health insurance among teaching faculty of a private university in South India. The specific objectives of the study were to: (a) estimate the health expenditure incurred by the teaching faculty and their households and (b) assess the factors influencing those who have not subscribed to health insurance. Very few similar studies have been conducted in South India to assess these parameters.

## II. MATERIALS AND METHODS

A community-based, cross-sectional study was conducted in a private university in South India over a period of 3 months, from January 2019 to March 2019. The sampling frame comprised of teaching faculty of various institutes of the private university. The sample size was calculated to be 150, using the formula $N = 4PQ/d2$ and assuming the awareness about health insurance to be 56%

(based on the IRDA 2011 survey) (6). Out of the total 150 faculty members, 30 were from Medical College, 30 were from Dental College, 30 were from Engineering College, 30 were from Nursing and Physiotherapy and 30 were from Management and Law.

The setting of the interview was either the workplace or the house of the participant, during evenings, depending on the point of contact and the convenience of the participant.

A pretested semi-structured interview schedule was used after obtaining written informed consent. It was composed of general socioeconomic data, history of illnesses and its financial impact on the household, and information on the utilization of health insurance. Ethical clearance was obtained from the Institutional Ethics Committee of Saveetha Medical College and Hospital, Chennai. Data were entered in Microsoft Excel 2013 and statistical analysis was done.

## III. RESULTS

Table 1 shows the socio-demographic characteristics of the respondents in frequency. A total of 150 faculty members were interviewed. The study sample was composed of 66 males (44%) and 84 females (56%). Most of the participants were in the 31–40 years age group (57.3%). The mean age for the respondents was 38.2 years with minimum of 25 years and maximum of 62 years old.

Most were married (80.6%) while 19.3% were unmarried. The mean family size was 3.9 ranging from 2 to 6 family members. About two thirds (74.6%) of the respondents had family size 3-4. 5.3% had family size 1-2 members and 19.9% had a family size five and above. The mean monthly family income was Rs.85,100. The median monthly family income was Rs. 80,000 with a maximum income of Rs. 1,60,000 and a minimum income of Rs. 35,000.

The majority of the faculty members (67.3%) were earning between ₹50,001 and ₹1,00,000. Only 2 members (1.3%) were earning more than ₹1,50,000 and 29 (19%) were earning between ₹1,00,001 and ₹1,50,000. 20 households (12%) were earning between ₹1 and ₹50,000.

Most of the faculty members (86.6%) spent ₹1 - ₹500 for doctor fees and diagnostics. Only 9 members spent ₹1501 - ₹2000 on doctor fees. Majority of the faculty members (52%) spent ₹1 - ₹500 on medicines.

When it came to other expenses, apart from health related expenses, about one third (34.6%) of the respondents spent ₹15001 - ₹20000. Around half of the total members (50.6%) had been hospitalised in the past 5 years, out of which 45.4% spent ₹1 - ₹50000 for hospitalisation. 37.6% spent ₹50001 - ₹100000, 2.5% spent ₹100001 - ₹150000, 9% spent ₹150001 - ₹200000 and 5.1% spent ₹200001 - ₹250000 for hospitalisation.

Nearly three fourths (72.6%) of the total members had health insurance. Of those who had health insurance, majority (57.7%) paid ₹10001 - ₹15000, 12.8% paid ₹15001 - ₹20000, 18.3% paid ₹20001 - ₹25000 and 11% paid ₹25001 - ₹30000 as premium per annum. 73 members (66.9%) had previously used it for healthcare expenditure.

27.3% (39) of the faculty members did not have health insurance. Nearly three fourth (73.1%) of the respondents stated “less income” and 26.8% stated “not interested” as the reason for not having health insurance. 29 members (70.7%) said that they would be willing to pay for it in the future.

Among those who did not have health insurance 11 were males and 28 were females. The average age was 38.2 years, with the highest age being 42 years and lowest being 25 years. 15 members were unmarried (38.4%) and 24 members were married (61.6%). 17 members had a family size of 3 (43.5%) and 16 members had a family size of 4 (41%). The average monthly family income was ₹64000, with the lowest being ₹35000 and highest being ₹85000.

Majority of the faculty members (92.3%) spent ₹1 - ₹500 for diagnostics. Only 3 members spent ₹1501 - ₹2000 on diagnostics. Around half of the faculty members (51.2%) spent ₹1 - ₹500 on medicines. Only 4 members spent ₹501 - ₹1000 for medicines. 32 members (82%) spent ₹1 - ₹500 for doctor fees. Only 6 members spent ₹501 - ₹1000 for doctor fees. When other expenses were considered, 46.1% of the respondents spent ₹5001 - ₹10000.

About half of the total members (48.7%) had been hospitalised in the past 5 years, out of which one third of the members (13 members or 33.3%) spent ₹1 - ₹50000 for hospitalisation. 15.3% (6 members) spent ₹50001 - ₹100000 and 1 member spent ₹150001 - ₹200000 for hospitalisation.

Chi-square test was performed to measure the association between the various socio-demographic characteristics and those who did not have health insurance. It revealed that gender, age, marital status and health expenditure (Doctor Fees, Medicines) had a significant association with regard to non-insured respondents. ($p<0.05$)

## IV. DISCUSSION

In the present study, the average health expenditure incurred by the teaching faculty and their households was found to be ₹471.3 for diagnostics, ₹297.33 for medicines and ₹966 for doctor fees respectively. An average total of ₹1734.6 was spent every month on health expenditure alone as compared to ₹18140 spent on other expenses. Around 2% of the average family income (₹85100) was utilised for health expenditure. Nearly three fourths (72.6%) of the total members had health insurance. Among those who did not have health insurance (n = 39), an average of ₹500 for diagnostics, ₹287.1 for medicines and ₹502.5 were spent on a monthly basis. An average total of ₹1289.6 was spent for health expenditure when compared to ₹13384.6 for other expenses. Majority of those who did not have health insurance stated “less income” as the reason (73.1%) and the others stated “not interested” (26.8%). 29 members (70.7%) said that they would be willing to pay for it in the future.

The mean amount the households were paying for premium was ₹1630 monthly which works out to ₹19560 annually. The range was from ₹15000 to ₹30000 per annum. This is higher when compared to previous studies like Dror (7) and Madhukumar *et al*. (8) This could be reasoned out by the fact that the present study population had a mean income of ₹85,100 compared to most families having a monthly income of ₹4000–₹6000 in the study population of Madhukumar *et al*. (8) Dror (7) was conducted about 10 years ago and found a median household annual income of ₹41,400 as compared to a median household annual income of ₹960000 or monthly income of ₹80000.

It can be seen that the lower income groups (₹1–₹50,000 ; ₹50,001–₹1,00,000) are willing to spend 1.5%–2% of their monthly family income as health insurance premium. This proportion declines in the ₹1,00,001–₹1,50,000 and ₹1,50,001–₹2,00,000 income groups to 0.98% and 0.78% respectively. This suggests that different income groups may have a different understanding and perceptions of the risks put forth by health-care costs on their overall finances.

Furthermore, community-based health insurance schemes could be useful for the income group between ₹1 and ₹50,000 and the group with income more than ₹50,000 may find strategically-priced commercial health insurance more attractive. In contrast, Dror (7) found that the median premium amounts increased consistently as the total monthly income increases. Dror (7) also found that the proportions decrease steadily with an increase in monthly income. The income group ₹1–₹50,000 may be anxious to plan ahead financially, taking into consideration the relative low income and the propensity to ill health leading to the discrepancies between the two studies.

Onwujekwe *et al*. (9) discovered that the amount the respondents were paying as premium was directly proportional to male sex. The association of amounts being paid with male gender and marriage may be because of the idea of marriage in the Indian context, where the married male takes on more financial responsibility for himself and his family. So there can be specific addressing toward marriage by the insurance policies. Generalizability of the findings to a larger population was one of our limitations to our current study.

## V. CONCLUSION

Health insurance is not a new concept and in this era it is becoming essential that people become more aware about it, but it has not extended to the entire population. The demand for health insurance should be taken into consideration, due to the low awareness about health insurance in this population. Different income and social groups have a different understanding and expectations regarding health insurance in India. The findings in this study might help decide health insurance policies and suitable premium amounts for policymakers. It is important that we increase the awareness of the public with regard to the benefits of health insurance and also lessen the misconceptions about health insurance.

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**TABLES**

| CHARACTERISTICS | Frequency | Percentage | Mean |
|---|---|---|---|
| **Gender** | | | |
| Female | 84 | 56% | |
| Male | 66 | 44% | |
| **Age in years** | 150 | | 38.2 |
| 21 – 30 | 13 | 8.6% | |
| 31 – 40 | 86 | 57.3% | |
| 41 – 50 | 44 | 29.3% | |
| 51 – 60 | 5 | 3.3% | |
| 61 – 70 | 2 | 1.3% | |
| **Marital Status** | | | |
| Single | 29 | 19.3% | |
| Married | 121 | 80.6% | |
| **Family Size** | | | 3.9 |
| 1-2 | 8 | 5.3% | |
| 3-4 | 112 | 74.6% | |
| >5 | 30 | 19.9% | |
| **Monthly Family Income** | | | 85100 |
| 1-50000 | 20 | 12% | |
| 50001-100000 | 99 | 67.3% | |
| 100001-150000 | 29 | 19% | |
| 150001-200000 | 2 | 1.3% | |

Table 1:- Socio-demographic characteristics of the respondents (n=150)

| CHARACTERISTICS | Frequency | Percentage | Mean | P |
|---|---|---|---|---|
| **Gender** | | | | 0.02 |
| Female | 28 | 71.7% | | |
| Male | 11 | 28.3% | | |
| **Age in years** | 39 | | 38.2 | <0.001 |
| 21 – 30 | 12 | 30.7% | | |
| 31 – 40 | 25 | 64.1% | | |
| 41 – 50 | 2 | 5.1% | | |
| **Marital Status** | | | | <0.001 |
| Single | 15 | 38.4% | | |
| Married | 24 | 61.6% | | |
| **Family Size** | | | 3.7 | |
| 1-2 | 0 | 0% | | |
| 3-4 | 33 | 84.6% | | |
| >5 | 6 | 15.4% | | |
| **Monthly Family Income** | | | 64000 | 0.81 |
| 1-50000 | 7 | 17.9% | | |
| 50001-100000 | 32 | 82.1% | | |
| 100001-150000 | 0 | 0% | | |
| 150001-200000 | 0 | 0% | | |
| **Health Expenditure** | | | | |
| Doctor Fees | | | 500 | <0.01 |
| Diagnostics | | | 466.7 | 0.06 |
| Medicines | | | 502.5 | <0.01 |

Table 2:- Socio-demographic characteristics of the respondents who do not have health insurance (n=39)

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**FIGURES**

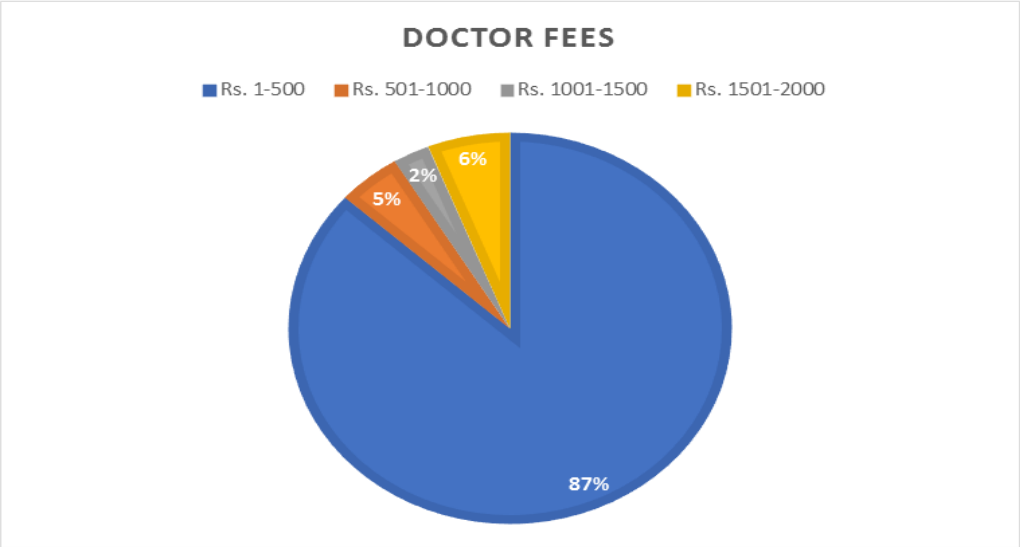


Fig 1:- Amount spent by the respondents for Doctor Fees.

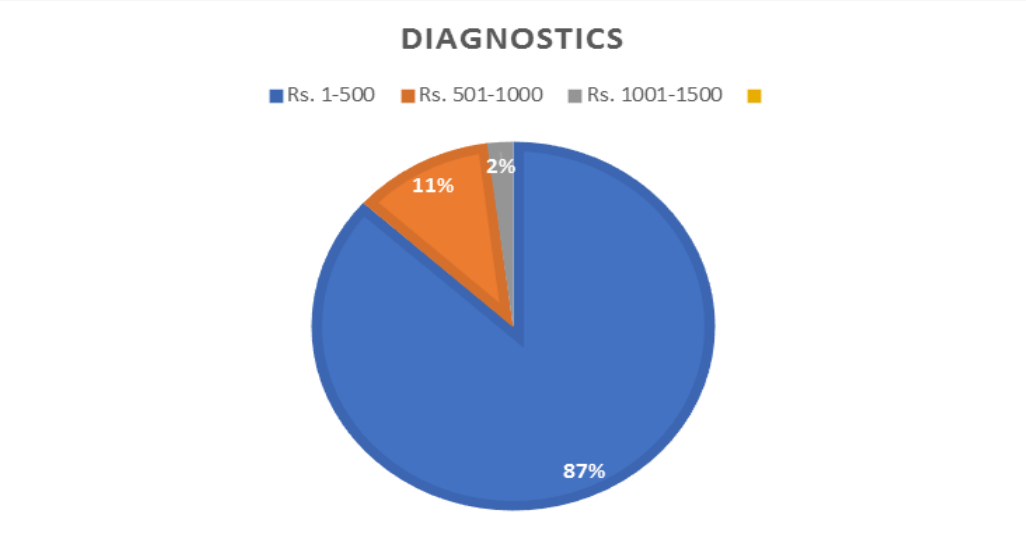


Fig 2:- Amount spent by the respondents for Diagnostics.

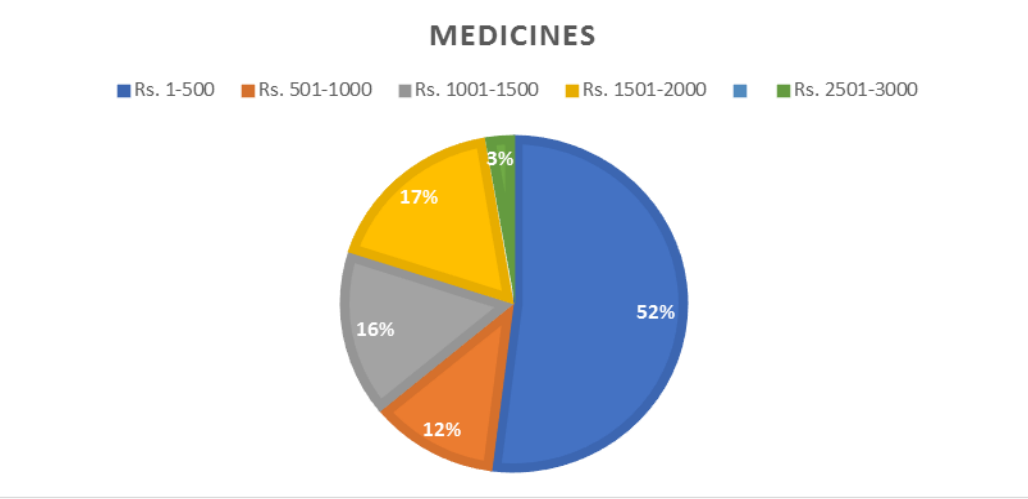


Fig 3:- Amount spent by the respondents for Medicines.

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Fig 4:- Amount spent by the respondents for Other Expenses.

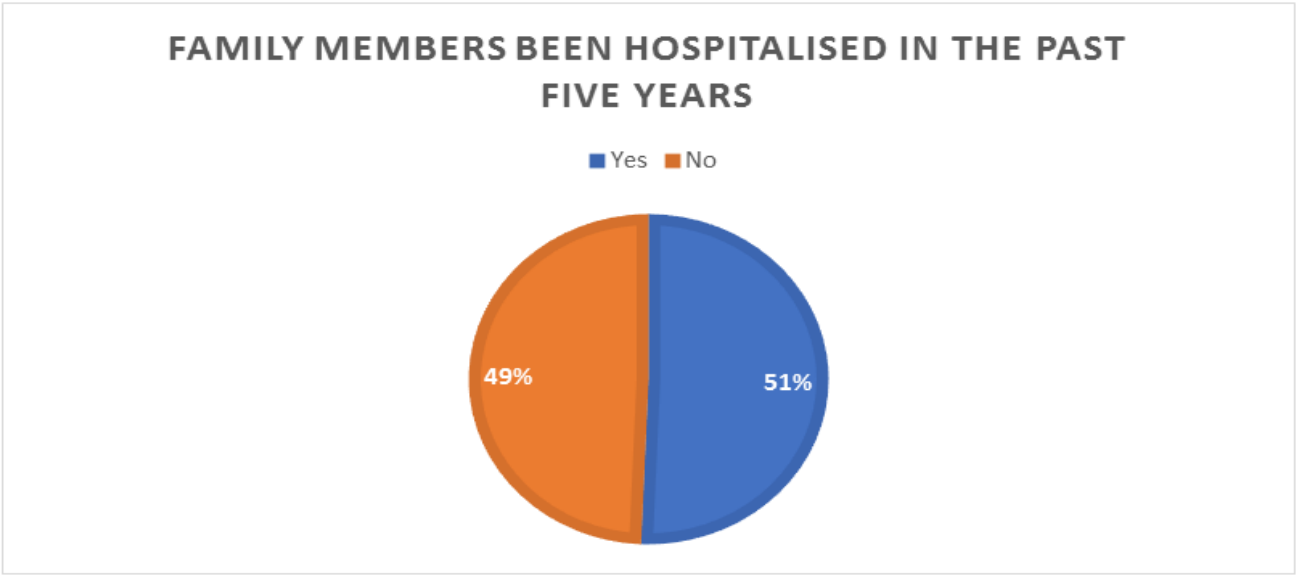


Fig 5:- Whether Family Members Have Been Hospitalized In The Past Five Years

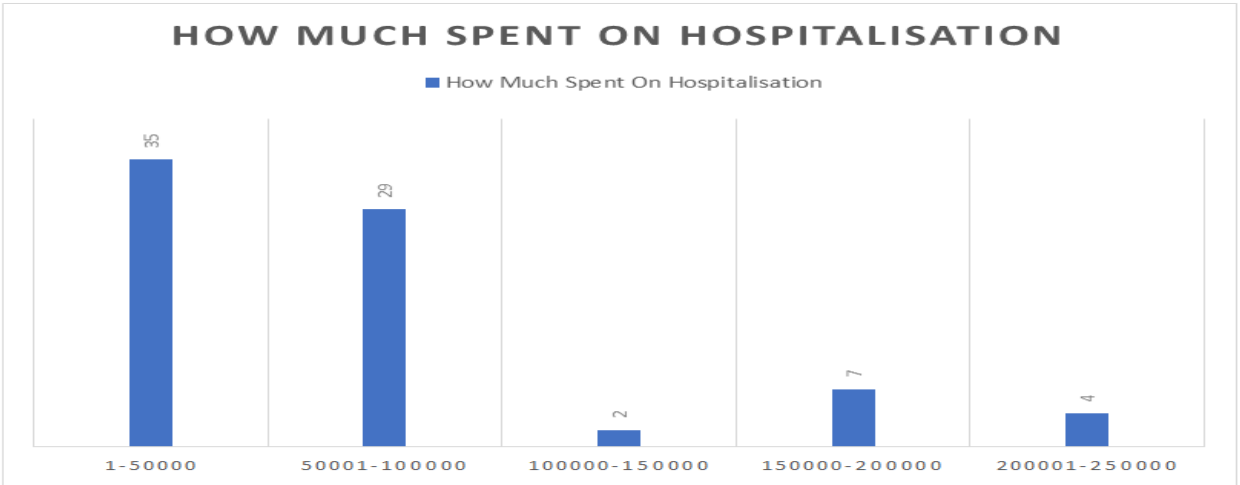


Fig 6:- Amount spent by the respondents on hospitalization

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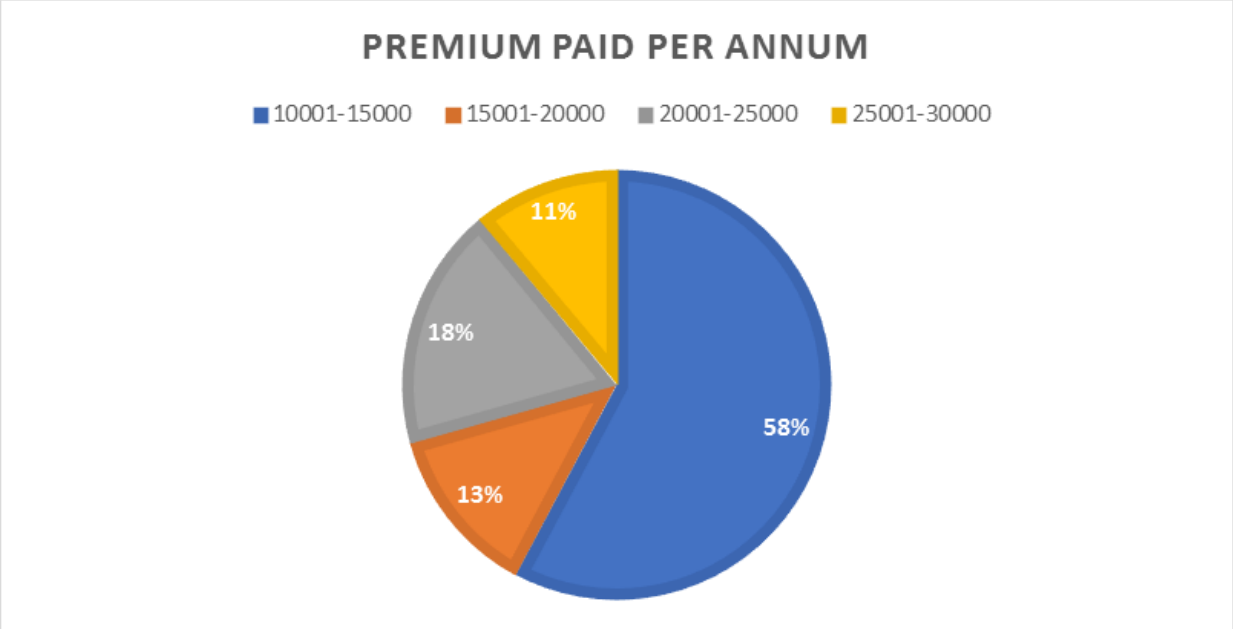


Fig 7:- Premium paid per annum by the respondents