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# Health Insurance Service Utilization and Willingness to Adopt Health Insurance Schemes Among Admitted Patients in a Tertiary Hospital of India

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## ABSTRACT

**Background:** With technological advances, new procedures and more effective medicines, the costs of healthcare have driven up. So, taking health insurance is more affordable.

**Aims:** To know health insurance service utilization and willingness to adopt a health insurance scheme among patients admitted in a tertiary hospital.

**Materials and Methods:** The study was conducted during September - November 2019 among 126 patients admitted in a tertiary care hospital using a predesigned and pretested schedule. The study design was cross-sectional. Non-probability sampling method was used. Data were entered to an excel sheet and SPSS software version 20 was used for analysis.

**Results:** Among the persons interviewed, about 20% were admitted under the health insurance scheme, 71% were aware of health insurance. Around 60% of the respondents gained knowledge about health insurance from radio and television followed by agents and friends (31.1%) and print media (8.9%). Among those insured 72% had ESIS, 24% had CGHS and 4% had taken private insurance. Among participants, 55% were not willing to join any health insurance scheme but if given a chance, 61% preferred Government health insurance. 84 % of participants who were admitted under insurance belonged to upper socio-economic status. This association was statistically significant ( $p=0.002$ ). Government health insurance was preferred by 80% of participants.

**Conclusion:** Health insurance coverage will further increase by increasing awareness about different schemes and the initiative taken by health care personnel will be more effective.

**Key Words:** Health insurance, Awareness, Out of pocket expenditure, Inpatients, Willingness to pay, Social security

## INTRODUCTION

The prevalence of lifestyle diseases is rising due to changing lifestyles which in turn is increasing the demand for healthcare. With technological advances, new procedures and more effective medicines the costs of healthcare have driven up. While these high treatment expenses may be beyond reach, taking health insurance is much more affordable.<sup>1</sup> Health insurance has been acknowledged as a valuable tool in health financing. The design of health systems and insurance schemes in countries like USA, Australia, Indonesia and India is based on the potential impact of how health

systems are financed on the wellbeing of households, particularly poor households.<sup>1,2</sup>

The insurance system works on the basic principle of pooling of risks of unexpected costs of persons falling ill and needing hospitalization by charging premium from a wider population base of the same community.<sup>3</sup> despite its significance, the subscription is very less. People who can afford or aware of health insurance are also found to be ignorant towards it. According to the 71st round of surveys, the National Sample Survey Office (NSSO) published the report "Key Indicators of Social Consumption in India: Health" in 2016. In the re-

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port, it was observed that more than 80% of people were not covered under any health insurance plan. The majority were covered by government-funded health insurance. Just 18% of the urban and 14% of the rural population were covered by some type of health insurance policy.<sup>4</sup>

A report from World Bank in 2002 showed that an enormous proportion of individuals borrow money or sell assets for hospitalization. Out of pocket health care expenses account for more than 80% of total healthcare expenditure in India.<sup>5</sup> People of lower socio-economic groups usually spend a higher proportion of their annual income on health than high socio-economic groups.<sup>6</sup> Once admitted to the hospital, the poor usually undergo a severe financial crisis.

The health insurance schemes for the poor were introduced to relieve their financial burden. Keeping in mind the healthcare needs of different strata of the population, insurance companies design innovative products with optimal pricing and comprehensive coverage. Plans funded by central government are Employee State Insurance scheme, Central Government Insurance Scheme, Rashtriya Swasthya Bima Yojana. In 2018, the Government of India has introduced Ayushman Bharat Yojana (Pradhan Mantri Jan Arogya Yojana), which aims to help economically vulnerable citizens for their health care need. Presently many private insurance companies like Star Health, ICICI Lombard, Reliance, Apollo Munich, Max etc. have come forward to offer health insurance. People have to pay premiums as per conditions of the policy, which vary according to medical care benefits. With so many features in different policies, the demand for health insurance has grown at a rate of 25 % per year, driven by rapidly increasing awareness, and is going to rise even more rapidly in the future.<sup>7</sup>

In Odisha, service delivery is mostly dominated by the public sector. The state still struggles with high levels of out of pocket expenditures and poor accessibility and quality of healthcare services in hard to reach areas. There is a tremendous opportunity for private sector investment to boost healthcare in this state, but private sector investment should go hand in hand with strong private sector regulation.<sup>8</sup> People are not purchasing health insurance because of low awareness, lack of finance and high premium charges in India.<sup>9</sup> In some studies in Maharashtra, India, lower levels of awareness (11–30%) and utilization of health insurance were reported,<sup>10</sup> whereas higher levels of awareness (64%) were reported from a South Indian population.<sup>11</sup> The most important reason for low coverage might be vast geographic and economic variation. Therefore, it was necessary to understand the awareness, utilization and willingness in buying health insurance among people in hospital inpatients of Odisha. So this study was conducted to assess the awareness of health insurance service among admitted patients in a tertiary hospital and to assess utilization and willingness to

adopt a health insurance scheme among them.

## MATERIALS AND METHODS:

This study was cross-sectional and was conducted from September to November 2019 among 126 admitted patients in a tertiary hospital of eastern India. The sample size was calculated taking prevalence of awareness of health insurance in the urban area as 64% concerning a study by B. Reshmi et al.<sup>11</sup> with 10% allowable error and 20% non-response rate. The sample size was estimated to be 110. Bed numbers were chosen by simple random sampling method and the interview was done in 126 admitted patients by a pre-designed and pre-structured schedule. The schedule consisted of questions on sociodemographic characteristics and awareness, utilization and willingness to join insurance scheme. Before the start of the interview, informed written consent was taken from the participants. Privacy and confidentiality of the interviewer were maintained. Those who did not give consent for the interview were excluded.

**Statistical analysis:** Data were entered in the excel sheet and analysed using SPSS software version 20 licenced to the institute. The level of awareness about health insurance in the study population was calculated in percentage. The association between various factors with awareness and enrolment were evaluated by Chi-square test. P-value  $\leq 0.05$  was considered a significant association.

## RESULTS

13.3 years. Majority of respondents (48.4%) were in the age group 41–60 years. Among them, 63.5% were male and 36.5% were female. Majority of the respondents were Hindu (96.03%). Overall 50.8% population had education till High school and below. Most of the respondents (82.5 %) were married and 69% belonged to the nuclear family. Majority of participants belong to the upper class (57.14%) and upper-middle class (38.88%) according to B. G. Prasad classification 2019. (**Table 1**)

Out of 126 participants, 25 (19.8%) were enrolled in any of the health insurance schemes. Awareness about health insurance was 71.4% (n=90) and among those who were aware, only 28% were enrolled. In comparison, males (69%) were more aware of Health insurance than females (54%) but the difference was not significant. (**Figure 1**)

Among insured patients, 72% were enrolled under the ESIC scheme, 24% CGHS and 4% private insurance policy. Insurance scheme was adopted to meet unforeseen expenses by 68% of the enrolled and 40% of those enrolled were satisfied with the benefits. 16.7 % of the insured find it easy to access the network hospitals and 10.3% find it easy to file a claim.

The main barriers for the subscription of health insurance were not commensurate benefit (38%), lack of awareness (36%) followed by financial constraint (12%). (**Figure 2**)

The main factors that motivated for the subscription of health insurance found were – cashless benefit (12%), lack of finance (20%), to meet medical emergencies (68%).

It was observed that, awareness insurance scheme was significantly associated with the education of participants, and enrolment was significantly associated with education, occupation and socioeconomic status ( $p < 0.05$ ) (**Table 2**)

Among the respondents, who were aware ( $n=90$ ), the major source of information of health insurance was from mass media like radio, television (60%) followed by friends/ agents (31.1%) and print media (8.8%). When the participants who had enrolled in health insurance scheme ( $n=25$ ) were asked about their satisfaction with the health insurance, it was found that 12% were very satisfied, 40% were satisfied, 12% were neutral and 36% were dissatisfied. (**Figure 3**)

Majority of patients (74%) wanted the government to provide total health care starting from the out-patient care to the provision of drugs. 54% of the respondents were willing to subscribe to insurance schemes in future. Only 25% of the respondents preferred a private insurance scheme and thought private insurance may provide a better and hassle-free coverage.

## DISCUSSION

It is necessary to know the awareness of health insurance and reason for non-enrolment and thus this study was conducted to assess the awareness of health insurance service among admitted patients in a tertiary care hospital and to assess utilization and willingness to adopt health insurance scheme among them. Most people in India don't seek treatment in India due to financial insecurity resulting from out of pocket health expenditure. Thus, it emphasizes the need for awareness about health insurance and its benefits to be made easily available to the citizens, more so to the elderly and with comorbidities.<sup>12</sup> The awareness among respondents in the current study is 71.4% which was fair. In a study by Madhukumar S et al. 35.3% of the 331 houses surveyed had heard of health insurance.<sup>13</sup> The difference might be because the study was done in a rural setting. The higher awareness in our study might be because of extensive media advertisement and the efforts to market schemes by different private as well as public health sector in the urban population. It might also be because it is a hospital-based study among respondents who might be having a chronic illness and financial burden due to health events. In this study, 29% of the participants were not aware of health insurance. Therefore, efforts are needed to aware the entire population regarding

various health insurance schemes Everyone regardless of the socio-economic class should be educated about the necessity for health insurance.

In this study 72% of those who were aware, also did not subscribe to any insurance schemes. 80.2% were not enrolled in any insurance schemes. Similar observations were found in other studies conducted by Bawa SK where 71.9% had no health insurance.<sup>14</sup>

Educational status was the main socio-demographic variable which affects the awareness and enrolment regarding different schemes. Similar results were observed in a study by Joseph N et al.<sup>15</sup> Awareness increases with an increase in the educational qualification were also observed in another study from Hyderabad. Another case study from Gujarat reported that there is a need for similar information to be provided for the rural and urban population on the concept of health insurance to improve awareness about health insurance on a large-scale.<sup>16</sup> It is reported that socioeconomic status and education play an important role in awareness of ehealth insurance. Effective health financing measures like information, education and communication (IEC) activities will improve the understanding of the people unaware of social security schemes and provide financial risk protection. In this study, enrolment was significantly more among the upper socio-economic class and in respondents with higher education. In a study by Jathanna PNR et al. 99.5% of the literates group were covered under insurance and 89.9 % were literates in non – enrollees group. This difference was significant. The socio-economic results showed majority enrollees (total of 77.7%) belonged to class III and class IV and it was significant at 0.01 level.<sup>17</sup> Only 16-18% of the population of the country avail Central Government Health Scheme, Employee State Insurance Scheme, and employer-based schemes, therefore a large segment of the population is left without any financial protection in case of health risks. Thus, it was suggested by S.N. et al.<sup>18</sup> to expand the ESIS scheme, hence allow larger numbers and all grades of wage-earners into the risk pool. It is opined by Virk AK and Atun R that a balanced approach and evidence-informed policies guided by morbidity and health spending patterns are needed for financial protection mechanisms.<sup>19</sup> In this study, enrolment was significantly associated with education, occupation and socio-economic status. Thus, it is likely that due to the financial burden and stress of existing loan the poor and low socio-economic population are reluctant to avail any government or private health insurance schemes. In the last decade, the private health sector has made several innovations and improvisations giving them the advantage over the government-issued public health sector. It is bothersome for the poor and underprivileged masses to afford the cost of specialised medical care provided by the private sector. Moreover, public health care remains challenged with a shortage of manpower and finance. Most people in India are

not financially secure by health policy because of low awareness, lack of finance and high premium charges.<sup>9</sup>

In this study, the insurance scheme was adopted to meet unforeseen expenses by the majority that is 68% of the enrolled and also 68% of them said they subscribed to meet medical emergencies.

The results are similar to a study by Indumathi K et al., where the majority of the respondents 96.2% had taken health insurance to cover their medical expenses. In the same study 86.6% of them reported benefit of health insurance to be reducing healthcare expenditure, better coverage of the entire family (18%), for the emergency health care(2.5%).<sup>20</sup>

40% of those enrolled participants in this study were satisfied with the benefits. Though in a study by Bhaisare RG et al. in Maharashtra majority participants were satisfied with the benefits by public health insurance schemes.<sup>21</sup> In the present study the respondents who were aware, the major source of information of health insurance was from mass media like radio, television (60%) followed by friends/ agents (31.1%) and print media (8.8%). Similarly, a study conducted by Reshmi B et al. showed 34% were aware through television advertisements. Thus media do play an important role in the dissemination of information.<sup>22</sup> In our study, 74% of patients preferred government schemes similar to the study where 74% were willing to enrol to government policy.

The main barriers in this study for the subscription of health insurance were not commensurate benefit (38%), lack of awareness (36%) followed by financial constraint (12%). An another study by Madhukumar S et al. observed that the main barriers for the subscription of health insurance were low income or uncertainty of income (43%) followed by other reasons.<sup>13</sup> In this study, 54% of the respondents were willing to subscribe to insurance schemes in future. In another study by Netra G et al. 77% of the households were willing to subscribe for health insurance schemes.<sup>23</sup>

As we can see respondents who were better aware and enrolled in any scheme were significantly more in those who obtained high school certificate. Lack of education is the biggest challenge for low utilization of health insurance schemes. With the rise in health care cost, and high out of pocket expenditure for funding healthcare, the only way forward for financing healthcare is a robust health insurance mechanism.

## CONCLUSION

The findings of the study highlight the current status of the fair prevalence of awareness toward health insurance in the hospital setting was fair in this study but low enrolment was observed among the participants. Health insurance coverage can further be increased by increasing awareness about

different schemes. Thus at every healthcare facility advisor could be appointed to aware patients about the health insurance policy. Information, Education, Communication campaigns can be organized in villages and cities explaining the importance of health insurance which is essential to cope up with the rising medical challenges in India.

## Limitation

The study is conducted in one healthcare setting and in only two wards in the selected region hence results cannot be generalized.

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**Conflict of interest:** Nil

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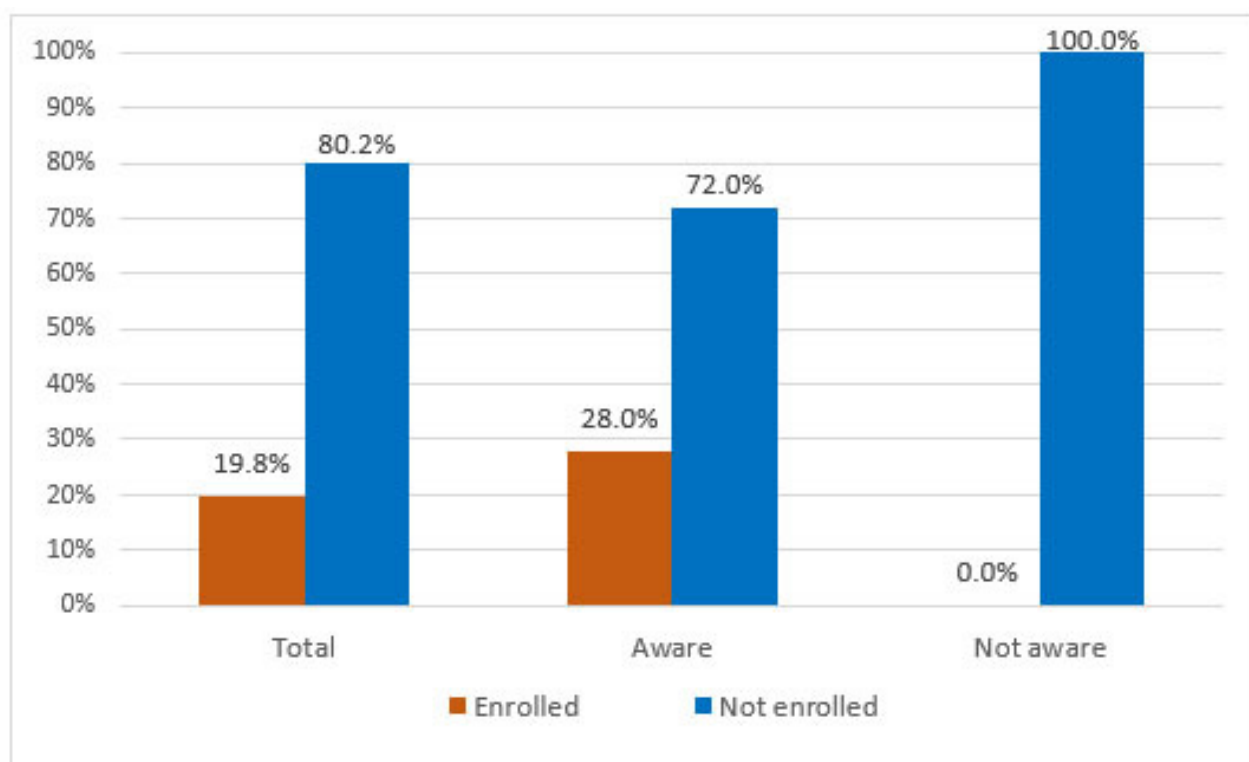
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**Table 1: Socio-demographic characteristics of participants**

Characteristics	Number (%)
<b>Age (Years)</b>	
25-40	46 (36.5)
41-60	61 (48.4)
>60	19 (15.1)
<b>Gender</b>	
Male	80 (63.6)
Female	46 (36.5)
<b>Religion</b>	
Hindu	121 (96.03)
Muslim	5 (3.97)
<b>Education</b>	
Primary	9 (7.1)
Middle	34(26.9)
High school	21(16.7)
Intermediate or Diploma	38(30.2)
Graduate	24(19)
<b>Occupation</b>	
Semi profession/profession	35 (27.8)
Skilled worker	48 (38.2)
Semi-skilled	10 (7.9)
Unskilled worker	8 (6.3)
Unemployed	25 (19.8)
<b>Socioeconomic status</b>	
Upper	72 (57.1)
Middle	54 (42.9)
<b>Type of family</b>	
Joint	39 (31)
Nuclear	87 (69)

**Table 2: Association of Socio-demographic variables with awareness and Enrolment of Health Insurance**

Variables	Awareness (%)		Significance (P-value)	Enrolment (%)		Significance (P Value)
	Aware	Not aware		Enrolled	Not enrolled	
<b>Gender</b>						
Male	56 (70)	24 (30)	0.639	20 (25)	60 (75)	0.055
Female	34 (73.9)	12 (26.1)		5 (10.9)	41 (89.1)	
<b>Religion</b>						
Hindu	87 (71.9)	34 (28.1)	0.563	24 (19.8)	97 (80.2)	0.992
Muslim	3 (60)	2 (40)		1 (20)	4 (80)	
<b>Education</b>						
Intermediate or above	53 (85.5)	9 (14.5)	0.000*	19 (30.6)	43 (69.4)	0.002*
High school or below	37 (57.8)	27 (42.2)		6 (9.4)	58 (90.6)	
<b>Occupation</b>						
Professional/Semi-professional	28 (80)	7 (20)	0.186	18 (51.4)	17 (48.6)	0.000*
Others	62 (68.1)	29 (31.9)		7 (7.7)	84 (92.3)	
<b>Socioeconomic status</b>						
Upper class	49 (68.1)	23 (31.9)	0.333	21 (29.2)	51 (70.8)	0.002*
Middle class	41 (75.9)	13 (24.1)		4 (7.4)	50 (92.6)	
<b>Type of family</b>						
Nuclear	60 (69)	27 (31)	0.361	18 (20.7)	69 (79.3)	0.721
Joint	30 (76.9)	9 (23.1)		7 (17.9)	32 (82.1)	



**Figure 1:** Awareness and enrollment under health insurance.

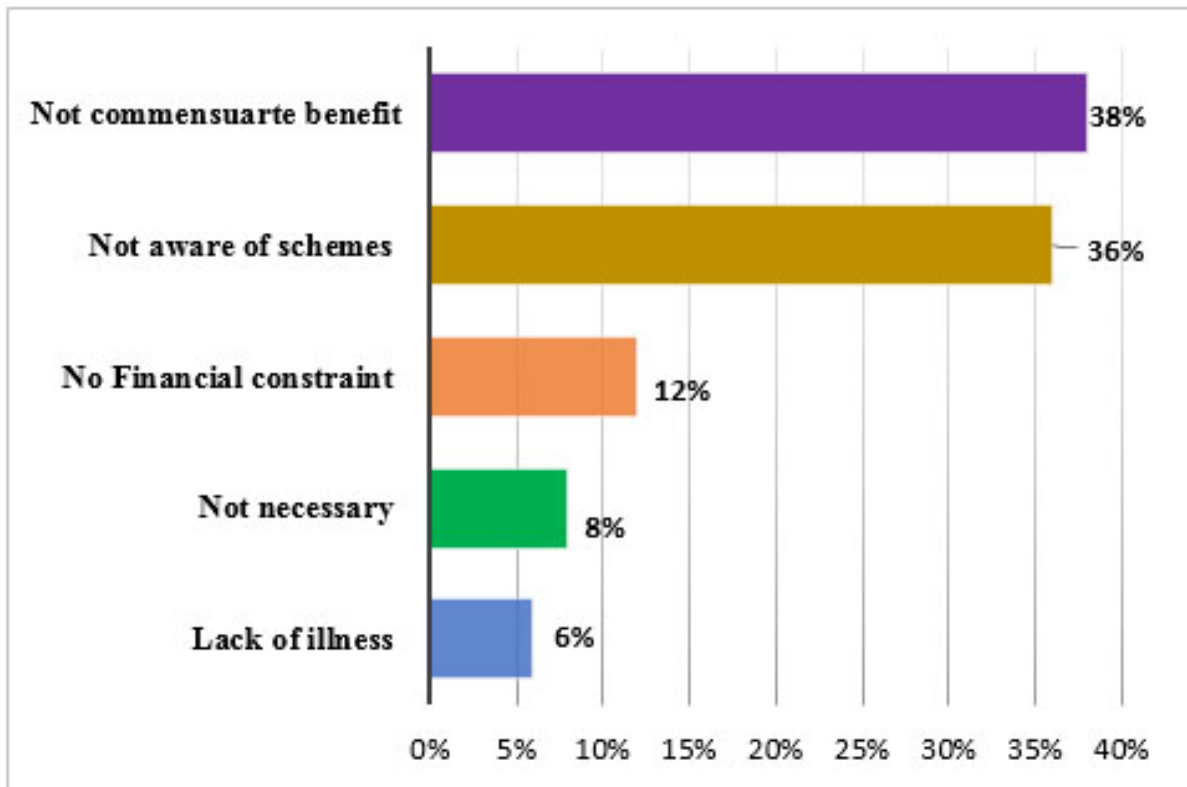


Figure 2: Reason for not being insured (n=101).

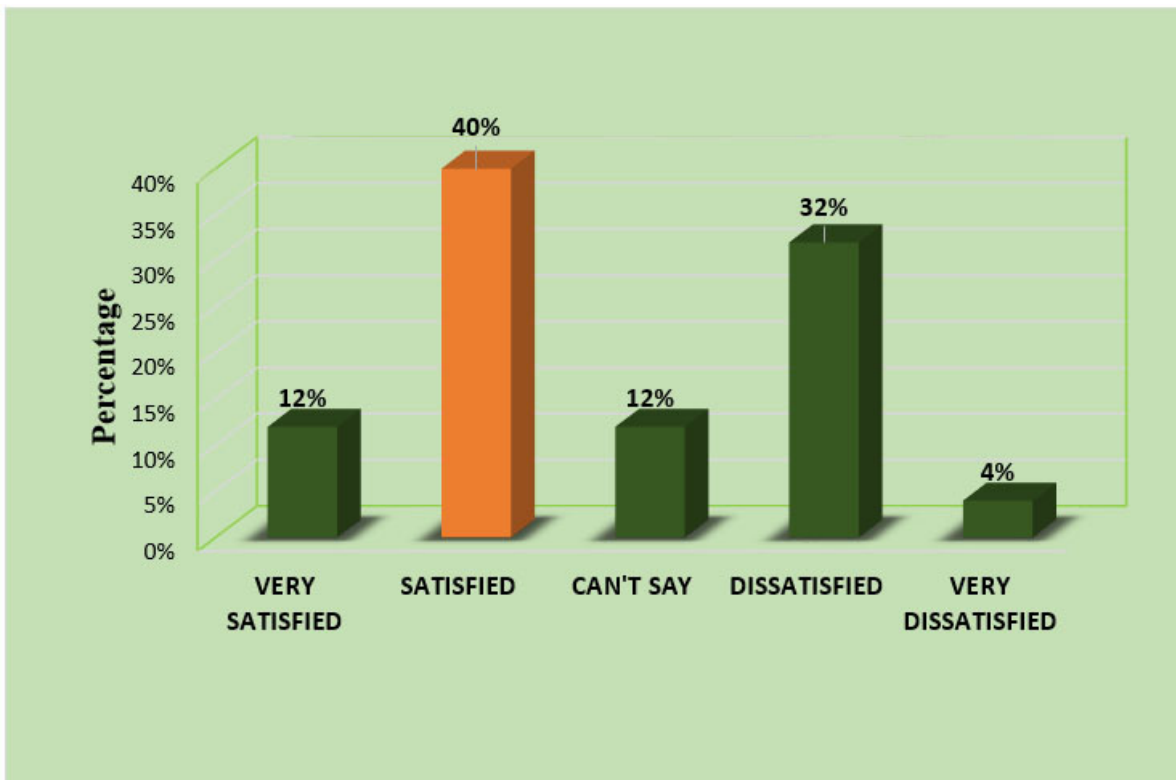


Figure 3: Satisfaction with current scheme (n = 25).