

Research Article

Socioeconomic Disparities in Hospitalization Rate and Treatment Seeking Behavior of Major Morbidity in India

(Evidence from a nationally representative panel survey)

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Abstract

In almost all countries, development of health systems that are responsive to the challenge of prevention and treatment of diseases is a priority. It is important to note that there has been a tremendous growth in the health care infrastructure across the country and both in rural and urban areas in the last two decades. The obvious outcome of this is the increase in 'health ideals' of the people, change in their perception, beliefs and treatment seeking behaviour. Present study aimed to assess the prevalence of major morbidity, hospitalization rate and treatment seeking behavior for major morbidity by socioeconomic and demographic characteristics in India. This study used data from two rounds of Indian Human development survey (IHDS) conducted during 2004-05 (IHDS-I) and 2011-12 (IHDS-II). IHDS I & II were designed to complement existing Indian surveys by bringing together a wide range of topics in a single survey. Bivariate and multivariate analysis were performed to identify the disparities, nature of association between hospitalization rate and treatment seeking behavior with selected socioeconomic background characteristics.

The findings of study indicate that in any determinants percentage of people seeking treatment in private sector is high as compared to public and others, irrespective of the disease they are facing with, except in Scheduled tribes and Northern-Eastern regions where percentage of people who treated at the Public is more as compared to other determinants. In regions northern-Eastern region are seeking treatment in public, 65 percent of people those are suffering non-communicable disease are going to public sector, and 68 percent are seeking at public those who are suffering from communicable diseases. This study concludes that in India, epidemiological transition is in progress and this study confirms the results suggest that there is growing burden of non-communicable diseases is growing faster than the communicable diseases. Results suggest that the female are more vulnerable to the major morbidity as compared to the males but the odds of admitting to a hospital is less than the males, which may be due to the socio-cultural barriers which make women less accessible to the resources as compared to their counterparts.

Introduction and reviews of literature

The burden of disease has always been a hurdle in the development of any country and India is also not an exception to this. As per the WHO this burden (almost 60 percent) in the country is concentrated in the chronic diseases (World Health Organization, 2009). Amidst an unfinished agenda of dealing with communicable diseases; increase in the burden of chronic diseases has become challenge for its health programmes. India is suffering from both the burden of diseases. Again, states in the southern part of India and some other states, who are leading in the demographic transition process, are burdened with long-term chronic morbidities, such as diabetes, cardiac ailments, etc. Both types of morbidities have different healthcare needs. Minor morbidities such as fever, respiratory infection and diarrhoea are subject to frequent out-patient visit, which although inexpensive per visit, can be cumulatively onerous with a higher frequency of occurrence and are mostly not covered by the

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insurance schemes. On the other side, with major morbidities, people require long-term intense care, which may be less frequent but expensive when encountered. A study on the morbidity, confirms that an expansion of morbidity is in progress in India, with a heavier and cumulated concentration of morbidity in older ages (Arokiasamy, P., & Yadav, S, 2014). In developing countries during the health transition, it was established that the progress of health transition would lead to high morbidity or poor health with a decline in mortality (Johansson, S. R, 1991). According to study by Abegunde, D. O., et al., 2007 it was found that the most of the deaths in low income countries could be averted.

The evidences derived from the studies suggest that during with the improvement of mortality there are variations in the burden of diseases. Therefore, an assessment of morbidity at a country, state, regional level will be useful for health programmers. Apart from understanding the morbidity, hospitalization and treatment seeking for these morbidities will help. In part of understanding these trends one of the study by Gosh and Swamy 2009 examined that the morbidity prevalence, and it was found that prevalence for females is reported higher than males in both rural and urban areas. As household's size plays an important role in countries like India, the prevalence of ailments is found to be inversely related with household size in rural areas, this may be due to the underreporting by larger sized households (Dilip, T. R, (2002). According to NSSO report (2015), it was found that private doctors were the single-most significant source of treatment in both the rural and urban sectors. In fact, more than 70% (72% in the rural and 79% in the urban areas) spells of ailment were treated in the private sector (Kumar, A., et al., 2015).

Need for the Study

In countries like India studies have found that there has been a significant variation in the burden and treatment of the diseases. Most of these studies have focused either on the burden of these diseases or the treatment. There are some studies like Gosh (2009) which has focused on both these areas, but these have been concentrated at one time point of time as a cross-sectional study. The present study uses the data from a longitudinal study conducted by NCAER and University of Maryland. Using the most recent available nationally representative data, the study examines the prevalence of major morbidity, hospitalization rate and treatment seeking behavior for diseases by socioeconomic and demographic characteristics in India. Further, study assesses whether the gap in prevalence of major morbidity, hospitalization rate and treatment seeking behavior is explained by socioeconomic and demographic differences in underlying and, if so, to what extent socioeconomic factors explain these differences.

Study Setting, Data, Methods and Ethics

Data and sample size

Present study is based on the nationally representative survey conducted by the NCAER and University of Maryland. They conducted two rounds of panel survey data known as Indian Human development survey (IHDS), the first round of data was conducted during 2004-05 (IHDS-I) and 2011-12 (IHDS-II). IHDS I & II were designed to complement existing Indian surveys by bringing together a wide range of topics in a single survey. This breadth permits analyses of associations across a range of social and economic conditions. The IHDS is a nationally representative survey as it covers all states and union territories of India, with the exception of Andaman, Nicobar, and Lakshadweep islands. At the household level, information available are of household members by age, sex, marital status, occupation, household expenditure on health care, food and non-food expenditure by items, household income, credit and money borrowed by purpose. From each sampled representative household, incidence of major morbidities of members was collected. The IHDS -I (2004–2005) survey covered 41,554 households in 1,503 villages and 971 urban neighborhoods across India whereas IHDS-II (2011-12) survey covered 33 states and union territories, 42152 households, 384 districts, 1420 villages and 1042 urban blocks located in 276 towns and cities, across India. The survey instruments were translated into 13 Indian languages and were administered by local interviewers. IHDS was jointly organized by researchers from the University of Maryland and the

National Council of Applied Economic Research (NCAER), New Delhi (Desai, Sonalde, et al., 2005, IHDS-I and Desai, Sonalde, et al., 2005, IHDS-II). The present study measures three outcome variables, namely Major morbidity, hospitalization rate and treatment seeking behavior. Important Socioeconomic and demographic predictors such as sex (male and female), residence, age, education, caste, religion, zones, and income quintile were included as predictor variables in the present study based on the several studies done in past.

Analytical approach

The prevalence of ailments is calculated with information from the survey on any person who had fallen sick during the 365 days leading up to the survey. Since both the rounds of IHDS surveys are based on similar survey design, concepts, definitions and reference period, the estimates from these surveys are calculated by using the below formulae for both the rounds.

The formulae for calculating prevalence is

$$\text{Prevalence} = \frac{\text{All new and pre-existing cases during agiven period of time}}{\text{Population during the same period}} \times 10^3$$

The hospitalization rates are calculated with information from the survey on any person who has been hospitalized during the year up to the date of the survey.

$$\text{Hospitalization} = \frac{\text{Number of persons hospitalized}}{\text{Total number of persons alive in the sample households}} \times 10^3$$

Post calculation of hospitalization rate for both the rounds of data, in order to get know factors explaining about the Hospitalization rate a logistics regression have been used. A dichotomous variable is constructed indicating 0 as not hospitalized and 1 those who have hospitalized during the last 365 days. We used sex, residence, age, education, caste, religion, zones and income as predictor variables in the regression model. For treatment seeking behavior, diseases are broadly categorized into three categories i.e. communicable, non-communicable and other according to the ICDS-10. For the treatment seeking a question was asked as “From whom did you get the treatment”. Using this question, a variable constructed variable with three categories. The one who is going to a public doctor/Public Nurse and public doctor/private Nurse as a public doctor. Private Doctor/Nurse as a private and the traditional, pharmacy as other category.

Results

Prevalence of Major Morbidity

Prevalence of various diseases has been shown in the figure 1 below. The overall prevalence is highest for the blood pressure that is 14.3 (2004-5) & 31.1(2011-12) for both the rounds followed by diabetes (7.7 & 17.3) cataract (6.1 & 11.6) asthma (5.7 & 9.3) & heart disease (5.2 & 8.1). Lowest prevalence is for HIV/AIDS (0.4 & 0.3) followed by leprosy (0.6 & 0.5), cancer (0.7 & 0.7).The blood pressure has the highest increase from 2004 to 2012 (16.8%) whereas disease like HIV/AIDS, leprosy & cancer are lowest and has also shown a negative growth during the period. Non-communicable diseases like high blood pressure, heart diseases and diabetes are observed highest as compared to the other diseases.

Prevalence of Major Morbidity by Selected background characteristics

The differences in morbidity prevalence levels by selected background factors will indicate the unequal burden of morbidity in the population. Consequently, attempt is made to examine the differences in morbidity levels by individual characteristics as well as household socioeconomic characteristics. Prevalence of major morbidity is an important health indicator along with the other health indicators. Figure 2 shows any major morbidity prevalence, in India during 2004-05. The

prevalence of major morbidity is 58 per thousand population, which has almost doubled since then, and in 2011-12 it has been 106 per thousand population.

Figure 1: Comparison of major morbidity prevalence

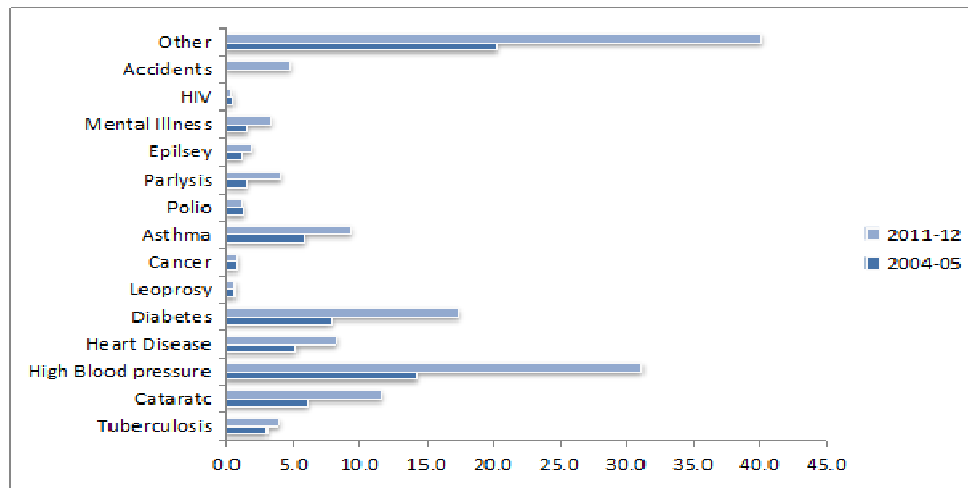
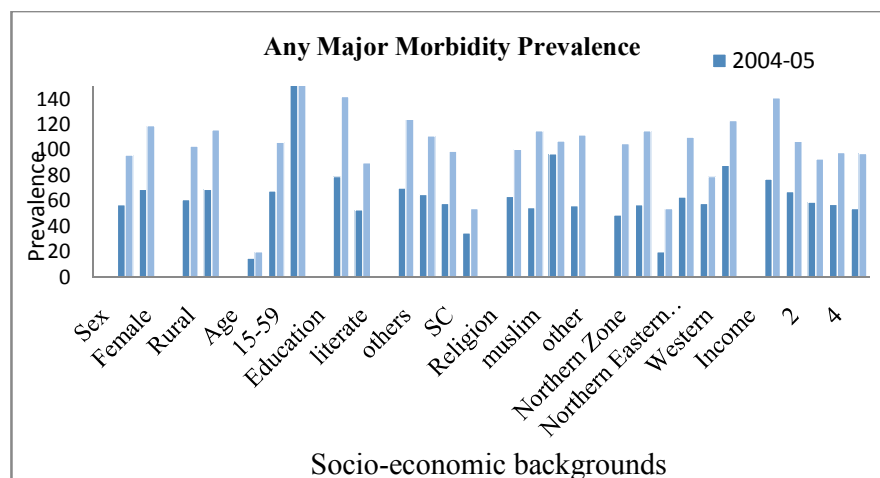


Figure 2: Comparison of Prevalence of any major morbidity by socio economic background



The above figure clearly reflects that prevalence of any major morbidity has increased during the survey period across all the socio-economic and demographic characteristics. Prevalence of morbidity was higher among females than males. Morbidity prevalence by sex indicates that although the prevalence has increased both for males and females, a greater increase in morbidity prevalence is seen among females compared to their counterparts during the period. Morbidity prevalence rate has increased significantly from 61 per thousand population to 103 per thousand population in the rural area and it increased from 69 per thousand population to 116 per thousand population in the urban area during the period. The increase in the prevalence of morbidity could be due to increased health consciousness among the people and better reporting by the respondents.

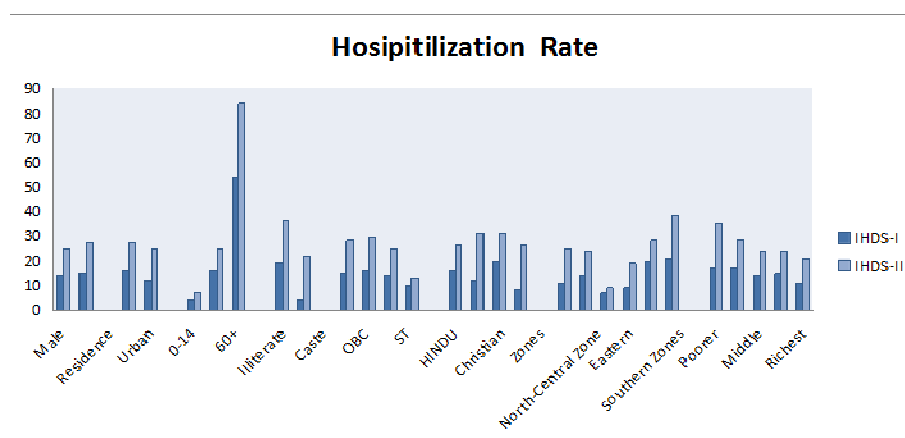
In age group, prevalence increases with increase in age for both the rounds but the change during these periods is observed more among the age group 60+ followed by 15-59. Level of education and morbidity prevalence are found to be inversely related. The morbidity prevalence is highest among the illiterates with the prevalence rate of 79 per thousand in 2004-05 and 142 per thousand in 2011-12. The morbidity prevalence rate among the Schedule tribes and schedule castes is considerably lower than other social groups. It is worth mentioning that since these social groups belong to - are poor economic backgrounds compared to other social groups in India; self-reporting of

diseases might be low among these groups. The lower prevalence of morbidity among them is plausible due to the fact that the awareness about health problems among the scheduled castes and scheduled tribes may be also very low.

Hospitalization Rate of Major Morbidity

In the previous section, examination of various diseases and its pattern, associations of morbidity with the different background characteristics has been carried out in this section, our aim is to examine the hospitalization rate for different backgrounds. Hospitalization rate (Figure 3) was higher in females (15 & 27 per thousand in 2004-05 and 2011-12 respectively) compared to males (14 & 25 per thousand in 2004-05 and 2011-12 respectively). Even though the health care infrastructure is mainly located in urban areas, the urbanities had greater access to inpatient treatment than their rural counterparts. However, the hospitalization rate for rural areas is greater than the urban areas for both rounds. As morbidity rate is high in 60+ age group followed by 15-49 and then 0-14 age group for both the rounds. Same pattern is seen for hospitalization rate, rate increase with increase in the age-group. There is an enormous increase in hospitalization by the group during 2004-05 to 2011-12. Hospitalization rate for the 60+ age group is 54 and 84 per thousand in 2004-05 & 2011-12 followed by 16 and 25 for 15-59 age group, and then for 0-14 age group it is 4 & 7.

Figure 3: Hospitalization Rate



The illiterates continued to be the worst hit as the hospitalization rate (79 & 142 per thousand in 2004-05 and 2011-12 respectively) was the highest among them. Like morbidity, hospitalization rate was also higher among the OBC and Others' followed by SC and then ST population. But in religion, difference was observed in hospitalization rate, highest hospitalization was observed for Christian (20 per thousand) in 2004-05, as the morbidity was also high among the Christian group followed by Hindus, Muslims and others. But in 2011-12 hospitalization rate was highest for Muslims (31) and Christians (31) followed by Hindus and others. This pattern of hospitalization can be related with the morbidity for both caste and religion, group with more morbidity rate are tend have more hospitalization rate as compared to their counterparts. Northern-eastern zones has lowest hospitalization rate 7 per thousand during 2004-05 and 9 per thousand in 2011-12, this may be due to the fact that the morbidity rate is lower for the areas as compared to the other areas. The highest hospitalization rate is for the southern region (21 and 38 per thousand in 2004-05 and 2011-12 respectively) followed by west (20 and 28 per thousand), north-central (14 and 24 per thousand) and East (9 and 19 per thousand).

Income quintile which represents the economic condition of the household showed a negative relationship with prevalence of morbidity and hospitalization rate. As noticed earlier that morbidity decreased with increase in the income quintile, likewise hospitalization rate also decreased with the increasing the quintile. In general we can say that the hospitalization rate is observed more for those with the more major morbidity rate except for the urban rural. A regression analysis has been carried out using hospitalization as a dependent variable. Those who have admitted hospital at least for one

day are considered as 1 and those who not admitted at least one day has categorized as 0 these results are presented in table 1. Female are less likely to be admitted into the hospital. Even though the disease burden for female is more as compared to the male they are 19 percent (OR: 0.81; P<0.01) less like to be hospitalized in 2004-05 and 22 percent (OR: 0.78; P<0.01) less likely in 2011-12. The odds of admitting in hospital is 0.49 (P<0.01) times less in 15-59 age group and 0.44 times (P<0.01) less in 60+ age group.

Table 1: Logistic regression for hospitalization rate

Background Characteristics	Hospitalization			
	IHDS-I	P value	IHDS-II	P value
Sex				
Male®				
Female	0.81***	0.000	0.78***	0.000
Residence				
Rural®				
Urban	0.85**	0.017	0.87***	0.000
Age				
0-14®				
15-59	0.79**	0.004	0.49***	0.000
60+	0.83**	0.030	0.44***	0.000
Education				
illiterate®				
Literate	1.01	0.789	0.9**	0.005
Caste				
Others®				
OBC	1.06	0.282	1.05	0.107
SC	1.6	0.109	1.07	0.165
ST	0.94	0.032	1.01	0.859
Religion				
Hindu®				
Muslim	0.95	0.441	0.86	0.323
Christian	0.98	0.882	1.09	0.196
Others	0.55***	0.000	0.86***	0.000
Zones				
Northern Zone®				
North-Central Zone	0.98	0.762	0.92	0.099
Northern Eastern Zone	1.58	0.009	0.76	0.065
Eastern	0.58***	0.000	0.75***	0.000
Western	1.56	0.000	1.98***	0.000
Southern Zones	0.92	0.202	1.84***	0.000
Income				
Poorer®				
Poorest	1.20	0.005	1.11	0.038
Middle	1.07	0.279	1.08	0.118
Richer	0.96	0.594	1.03	0.625
Richest	0.91	0.2	0.88**	0.03

Treatment Seeking Behavior

As it is difficult to see the treatment seeking behavior for each and every disease, diseases are broadly divided into three categories namely non-Communicable, Communicable and Others to examine the treatment seeking. Percentage distribution of treatment seeking behavior by selected demographic and socio-economic characteristics is shown in the tables 2 and 3 for both the rounds of IHDS. Sixty five percent of the male headed households seek treatment in private sector for any non-communicable diseases followed by public (31 percent) and others (4 percent) Similar pattern is also observed for female headed households however, percentage of female headed households

seeking treatment at private hospital is little more (2 percent) compared to their counterparts . In female headed households 67 percent are treated at private sector followed by public (28 percent) and other (5 percent) in 2004-05. For Communicable diseases, both the types of household mostly sought treatment at private (65 percent for male headed and 66 percent for female headed) followed by public (31 & 30 percent respectively) and other in 2004-05.

The same pattern of treatment can be seen for the head of the households in 2011-12 except for communicable diseases the percentage of people going for the private sector has been reduced, and the percentage of people going to the public sector has increased. In Rural areas 65 percent of people suffering from non-communicable diseases were treated at private sector followed by public and others and for communicable diseases; only 4 percent of people were treated at others followed by the public (30 percent) and private sector (67 percent). In urban areas percentage for non-communicable diseases was little higher than their counterparts whereas for communicable disease percentage of rural people treated at private sector was higher than the urban. For other diseases highest percentage of people were treated at public sector (25 percent in Urban areas and 20 percent in rural areas), but the percentage of rural treated at private for other diseases is high as compared to the urban. But in 2011-12 for any non-communicable and others there is no much differences but the percentage of people suffering from communicable diseases at private sector has been reduced from 2004-05 to 2011-12 for both the areas. Percentage of literate persons treated at private is slightly higher than the illiterate persons for any kind of disease they are suffering from disease except for the communicable diseases where in 2004-05 66 percent of illiterate persons are treated at private sector which is 1 percent more than their counterparts.

Table 2: Percentage distribution of Treatment seeking by various diseases in India, 2004-05

Background Characteristics	Diseases											
	Non –Communicable				Communicable				Others			
	Public	Private	Others	Total	Public	Private	Others	Total	Public	Private	Others	Total
Sex of Household Head												
Male	31	65	4	3691	31	65	4	608	23	72	5	1808
Female	28	67	5	4271	30	66	4	506	20	75	5	2521
Residence												
Rural	30	65	5	4459	30	67	4	799	20	75	5	2914
Urban	29	67	4	3503	33	62	5	315	25	69	6	1415
Age												
0-14	20	74	6	271	16	78	6	118	22	74	4	464
15-59	29	67	5	4613	33	63	4	778	20	74	5	3095
60+	32	64	5	3078	28	69	3	218	25	70	5	770
Education												
Illiterate	31	64	5	3286	31	66	3	555	21	75	5	1864
Literate	28	67	5	4676	30	65	6	559	21	73	6	2465
Religion												
Hindu	29	67	4	6279	29	67	4	892	21	74	5	3510
Muslim	31	61	8	942	32	59	8	156	24	70	6	501
Christian	34	62	4	379	52	48	0	21	23	72	5	123
Other ¹	22	71	7	362	51	42	7	45	25	71	4	195
Caste												
Other	26	69	5	3221	27	66	7	320	20	75	5	1478
OBC	30	65	4	3143	25	71	4	441	19	76	5	1774
SC	30	64	5	1324	39	59	2	276	28	67	5	849
ST	45	46	9	274	43	51	6	77	23	67	10	228
Zones												
Northern Zone	39	56	5	1369	49	45	6	182	35	60	4	680
North-Central Zone	21	73	7	1459	23	73	4	354	13	83	4	1152
Northern Eastern Zone	65	34	1	83	68	32	0	8	70	12	17	75
Eastern	32	63	5	1331	43	50	7	212	23	71	6	787
Western	25	70	5	974	22	76	1	114	16	80	5	623

Southern Zones	32	65	3	2746	32	65	3	244	26	69	6	1012
Income												
Poorer	30	67	4	1603	28	68	4	311	17	77	6	1045
Poorest	27	67	6	1243	34	61	4	268	24	72	4	995
Middle	29	66	5	1445	27	68	6	215	19	76	5	821
Richer	33	62	5	1650	26	71	2	179	26	70	4	722
Richest	27	69	4	2021	38	57	5	141	21	73	6	746
Source: IHDS-I & IHDS-II 1: Sikh Buddhist Jain Tribal others and None.												

Scheduled tribes were treated more at public sector as compared to the other social groups for non-communicable and communicable, 45 percent of ST (Scheduled Tribes) treated at public for non-communicable disease, whereas 43 percent of them are treated at public sector for the communicable diseases. In region northern-eastern region has the highest percentage of people had their last treatment at their public sector for non-communicable diseases. Sixty five percent of people had their last treatment a public sector in 2004-05. During the inter survey period percentage of people treated at public sector increased by almost 20 percentage points., In 2011-12.84 percent of people were treated at the public sector for non-communicable followed by southern and western regions. Same pattern of treatment seeking can be seen for other communicable and non-communicable disease, and there is a rise in the treatment at public sector only for the northern-eastern region followed by the southern region except for these two regions all other region have showed a increase of treatment seeking at private sector.

Table 3: Percentage distribution of Treatment seeking by various diseases in India, 2011-12

Background Characteristics	Diseases											
	Non -Communicable				Communicable				Others			
	Public	Private	Others	Total	Public	Private	Others	Total	Public	Private	Others	Total
Sex of Household Head												
Male	30	64	6	6000	42	53	4	653	22	72	6	3,804
Female	30	65	6	7772	30	64	6	504	21	73	6	5,297
Residence												
Rural	30	64	6	7743	36	59	5	811	21	73	6	6,215
Urban	29	65	6	6029	41	54	4	346	23	71	6	2,886
Age												
0-14	29	67	4	279	30	56	14	89	17	78	5	778
15-59	30	65	5	7463	37	59	3	795	22	72	6	6,180
60+	30	64	7	6030	39	55	5	273	22	72	7	2,143
Education												
Illiterate	30	63	7	5457	39	57	3	573	21	72	7	3,820
Literate	30	65	5	8300	35	59	7	582	21	72	6	5,274
Religion												
Hindu	25	70	6	3055	30	64	5	286	19	75	6	2,447
Muslim	27	69	4	150	0	92	8	12	23	77	0	75
Christian	41	54	5	917	53	37	10	139	27	69	4	776
Other ¹	30	64	6	9642	37	59	3	719	21	72	7	5,802
Caste												
Other	26	67	7	5167	33	61	6	271	22	71	7	2,958
OBC	29	66	5	5681	37	58	4	507	19	76	6	3,761
SC	37	57	6	2380	38	58	4	293	24	70	6	1,878
ST	39	53	8	489	50	45	5	83	32	61	7	472
Zones												
Northern Zone	28	66	6	3082	36	60	4	263	27	66	7	2,042
North-Central Zone	15	75	10	2820	26	68	6	453	12	82	6	3,155
Northern Eastern Zone	84	14	2	340	74	13	13	9	76	24	0	68

Eastern	33	57	10	2058	49	48	3	179	28	61	11	1,616
Western	14	84	2	1517	52	48	0	83	12	86	2	582
Southern Zones	43	56	2	3955	55	39	5	170	35	63	2	1,638
Income												
Poorer	31	61	8	2622	40	54	6	2622	21	72	8	2,343
Poorest	31	64	6	2246	39	55	6	2246	22	73	6	1,817
Middle	31	63	6	2449	31	65	3	2449	22	72	6	1,712
Richer	29	67	5	2942	37	59	4	2942	21	73	6	1,673
Richest	28	67	5	3513	35	63	2	3513	22	73	5	1,556
Source: IHDS-I & IHDS-II, 1: Sikh Buddhist Jain Tribal others and None												

Discussion

As it is clear from the results that the female are more vulnerable to the diseases, however, odds of their hospitalisation is less as compared to the males. The findings of the present study are consistent to that of several previous studies. For example, Gosh and Swamy (2014) found that female is more vulnerable to the diseases as compared to the males. In age, wise both the major morbidity prevalence and the hospitalization increases with increase in age which indicated in earlier study also (Sharma, D., Mazta, S. R., & Parashar, A, 2013). Accidents raise concerns as the prevalence of the accidents has observed significant number. Although urban population is at high risk of getting diseases as compared to their counterparts, surprisingly prevalence of accidents are more in rural. Even though the urban areas have more resources in terms of access to medical care, hospitalization rate for rural is higher than the urban. Similar finding was indicated in previous study that higher hospitalization was higher than the urban in Kerala region of India (Dilip, T. R, 2002). Morbidity is directly proportional to the age, as age increases the prevalence increases but the odds of admitting into hospital is inversely related to the age similar findings were found in Prasad, S, 2010 (Prasad, S, 2012). Present study reconfirm that Irrespective of the type of disease people treated at the private hospital is higher as compared to the public and others in both the rounds (Singh, C. H., & Ladusingh, L, 2008; Nongkynrih, B., Patro, B. K., & Pandav, C. S, 2004). This may push people to incur more out-of-pocket expenditure making them to poor or pushing the non-poorer to poor, and the poor to be in the poverty trap.

Conclusion

In recent decades, India has gained a significant increase in life expectancy but overall the health conditions of the people are still far from achieving the goals. As far as socioeconomic disparities are concerned, place of residence and region of residence are the important factors that significantly affect the hospitalization rate and treatment seeking behavior of major morbidity in India. With the increase in income, an individual's treatment seeking behavior of major morbidity hospital rate and choice for private provider increases. Rich have better treatment seeking behavior of major morbidity compared to the poor. Rich can afford better quality of services in the private sector while the poor have to either compromise with low quality services in the public sector or impoverish themselves after getting treatment in the private sector. Therefore, the efforts are required to improve the quality of service in public sector health facilities and initiate various poverty alleviation programmes. So there should be some policy intervention to make people use of more public health facilities. Additional micro-level research is needed to understand and also examine the qualities of health care facilities and treatment seeking behavior of major morbidity across India, and in certain regions in particular. Special attention should be directed to health care utilization by individuals, especially those in socially disadvantaged groups.

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Limitation of the study

The limitations of this study relate to the fact that both the dependent and the independent variables are self-reported and likely to have reporting bias and recall lapse. Secondly the data used is cross-sectional survey where sampled households were asked to provide information on morbidity of members of households without any clinical or laboratory examination of individuals, therefore, the study cannot establish any cause and effect relationship between morbidity and different socioeconomic, demographic characteristic.

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