



INEQUALITIES AND HEALTH SEEKING BEHAVIOUR IN CHOICE OF MEDICAL PROVIDER IN INDIA: CROSS-SECTIONAL ANALYSIS OF NATIONALLY REPRESENTATIVE SURVEY.

Public Health

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ABSTRACT

Introduction: Visible difference in health indicators in India across states and also across socioeconomic condition reflects health inequalities. Availability of choices of health care services, variation in public health care expenditure, and other determinants influence health seeking behaviour of the people. This study aims to understand the health seeking behaviour of the people focussing on choices of health care providers across Uttar Pradesh, Bihar, Kerala, and Tamil Nadu. This study also aims to find the association of choice of health care providers and consumption per capita. **Methods:** Data of India Human Development Survey –II conducted in 2011-2012 was analysed. The study was focussed on fever, cough, and diarrhoea considered as short-term morbidities in this survey. Logistic regression and multinomial logistic regression were used for the association of choices of health care providers and states of India. **Results:** Predicted Value suggested that 3.8%, 6.3%, 30.7%, 54.4% of people in Bihar, Uttar Pradesh, Tamil Nadu, and Kerala respectively sought the services from government healthcare providers. People seeking health service from private providers were 76.2%, 85.4%, 64.1%, 44.1% in Bihar, Uttar Pradesh, Tamil Nadu, and Kerala respectively. Compared to 17.2% people in poorest quintile, only 8.4% people in richest quintile sought service from government providers. Among the private users 72.7% were from the poorest quintile, while 86.1% were from the richest quintile. **Conclusion:** Government health service is pro-poor while private services are pro-rich. People in states with higher public health spending prefer government health service to private health service and vice-versa.

KEYWORDS

Health seeking behaviour, health inequalities, Public Health expenditure, service providers.

INTRODUCTION

People in Kerala with life expectancy of 74 years live 18 years more than people in Madhya Pradesh.¹ Against 82 infant mortalities per 1000 in poor quintile, only 34 infants out of 1000 live births died in 2005 in richest quintile.² These statistics clearly prove the inequalities in health across states in India and across socio-economic conditions. The reason for the inequalities and poor health outcome may be the underutilisation of health care services. However, Das et al. argue that health outcomes are better in United States although the frequency of service use is greater in India.³ Thus, matter of debate should be the health seeking behaviour of the people rather than the frequency of service used.

Health seeking behaviour by definition is "sequence of remedial action that individuals undertake to rectify perceived ill-health".⁴ In India health seeking behaviour varies and people may use different forms of medicine other than allopathy. More than 50% of snake bites are treated by traditional healers and high proportions of chronic diseases like leprosy and epilepsy are treated by Ayurveda medicine.^(5,6) Indians also decide whether to use public healthcare service or the service provided by the private sector. Government services are well regulated in India with proper guidelines, but have less developed infrastructure due to low public health spending affecting quality of care. Indian states with higher economic development are more likely to spend on health and have better infrastructure compared to poor states of India generating high level of inequalities in health care service across states.⁽⁷⁻⁸⁾ Private health service providers on the other hand are well facilitated with better infrastructure but often criticised for over treatment and unnecessary drug prescription resulting into higher treatment cost.^(3,5,9)

There are ample studies done over health care seeking behaviour focussing on determinants of choice of medical providers, health service utilisation, and health expenditure, but the gap remains about health seeking behaviour of the people about choice of health care service providers. It is necessary to understand the nature of treatment pathway to understand the inequity in health care service to make the service more equitable. Therefore, this study aims to find the health seeking behaviour of people focussing on choice of health care service providers across the poor and rich state of India and also across the socioeconomic status of the people in India for short term morbidities (STM).

Methods

Data: This study is based on a secondary data analysis of India Human Development Survey II (IHDS-II). The second wave of survey was conducted in 2011-2012 to document the data regarding transformations in daily lives in the households of India. The data for the analysis was freely accessed through the link (<https://www.icspr>

[umich.edu/web/DSDR/studies/36151](https://www.icspr)).² and was selected for the analysis because it provides nationally representative survey. Eight data files were released and this study used "Individual file" which included 204568 observations and 502 variables.

The survey included two arms of diseases: those are short-term morbidity (STM) or minor morbidity and Long-term morbidity or major morbidity. This study focussed on STM which included three diseases: fever, cough, and diarrhoea. People who had suffered from any of these diseases in one-month period before that of interview were considered patients with minor morbidity or STM. Information in detail about STM are included in section 8 and 9 of women's questionnaire.¹⁰

Variables

To find the treatment pathway, two outcome variables were assessed. The first variable was answer to the question whether the people sought health service after STM (yes/no) and the second variable was the choice of providers made against STM (government/private/others). The choice "others" included all other categories such as Ayurveda, Homeopathy, accessing medical stores for un-prescribed medicines etc. The predicting variable were states of India and socioeconomic status (SES) of the people of India. Consumption per capita was used to SES and was grouped in quintiles. To understand the disparities in treatment pathway across states of India, we selected two rich states (Kerala and Tamil Nadu) and two poor states (Uttar Pradesh and Bihar). Weight variable was used for all the calculation to make it population representative which was done according to the recommendation of IHDS data guide.¹¹ Other confounding variables like geographical region, caste, religion, sex, age, education, and marital status were adjusted in regression analysis.

Statistical Analysis

We used multivariate logistic regression for the analysis of association between decision of seeking treatment and selected states along with SES. Further on, Multivariate Multinomial Logit model (MNL) used for the categorical variable "choice of service providers". Afterwards, coefficient estimates from these two models were used to calculate predicted values for easy understanding of data through fitted values. This was done to qualify difference in choice of medical providers by SES and state groups. Statistical software 'Stata 15.1' was used for all the statistical analysis.

RESULTS

According to the IHDS-II, there were 6514 people, 2075 people, 924 people, and 794 people in Uttar Pradesh (UP), Bihar, Kerala, and Tamil Nadu respectively who have short term morbidities (STM). Predicted values from regression coefficients in table 1 have shown that percentage of people seeking medical advice was highest in UP (99.2%) and was least in Tamil Nadu (97%) after the adjustment of

confounding variables such as age, sex, marital status, ethnicity, religion, and education. Table has shown that 98.8% of people sought medical advice from richest quintile while only 97.1% of people sought medical advice from poorest quintile. It clearly has shown the association of health seeking behaviour of the with socioeconomic condition and has verified that less percent of poor people seek advice compared to rich people.

Table1: Predicted value of adjusted coefficients of multivariate logistic regression for the decision of seeking medical advice for STM

Variables	Mean	std. error	P-value	95% CI
Indian States				
Uttar Pradesh (n=6514)	0.992	0.001	<0.001	0.99 0.995
Bihar (n=2075)	0.987	0.003	<0.001	0.981 0.992
Kerala (n=924)	0.972	0.006	<0.001	0.961 0.983
Tamil Nadu (n=794)	0.97	0.007	<0.001	0.956 0.983
Consumption per capita (n=32539)				
Lowest quintile	0.971	0.002	<0.001	0.967 0.976
2nd lowest	0.981	0.002	<0.001	0.977 0.984
Middle	0.983	0.002	<0.001	0.98 0.987
2nd highest	0.983	0.002	<0.001	0.98 0.987
Highest	0.988	0.001	<0.001	0.985 0.991

Mean values in Table2 clearly show that there was clear gradient in

Table2: Predicted value of adjusted coefficients of the multivariate multinomial logistic regression (MNL) of the first choice of treatment for STM.

Variables	Seeking government service			Seeking private service			Seeking other services		
	Mean	P-value	95% CI	Mean	P-value	95% CI	Mean	P-value	95% CI
Indian States									
Uttar Pradesh	0.063	<0.001	0.05 0.08	0.854	<0.001	0.84 0.87	0.083	<0.001	0.08 0.09
Bihar	0.038	<0.001	0.03 0.05	0.762	<0.001	0.74 0.79	0.199	<0.001	0.17 0.23
Kerala	0.544	<0.001	0.5 0.59	0.441	<0.001	0.4 0.48	0.015	<0.001	0.01 0.02
Tamil Nadu	0.307	<0.001	0.27 0.35	0.641	<0.001	0.6 0.68	0.052	<0.001	0.03 0.07
Consumption per capita									
Lowest quintile	0.172	<0.001	0.15 0.19	0.727	<0.001	0.71 0.75	0.101	<0.001	0.09 0.11
2nd lowest	0.14	<0.001	0.13 0.15	0.778	<0.001	0.77 0.79	0.081	<0.001	0.07 0.09
Middle	0.112	<0.001	0.1 0.12	0.806	<0.001	0.79 0.82	0.082	<0.001	0.07 0.09
2nd highest	0.115	<0.001	0.1 0.13	0.811	<0.001	0.8 0.82	0.074	<0.001	0.07 0.08
Highest	0.084	<0.001	0.07 0.09	0.861	<0.001	0.85 0.87	0.055	<0.001	0.05 0.06

DISCUSSION

This study was conducted to analyse health seeking behaviour of people in response to fever, cough and diarrhoea noted as short-term morbidities. The objective of the study was to find out how the choice of healthcare service provider varied across states and across socioeconomic status in India. We believed that the poor states would have lower attitude of seeking treatment. However, the findings are surprising that more than 95% of patients sought treatment in almost all the states regardless of wealth of states. Probably the more serious cases of short-term illness were recorded in the survey for which treatment is more likely to be sought. Further research is needed considering season as a confounder because it may alter severity of the short-term illness.

Study conducted on Chinese women reported that income affect health seeking behaviour via affordability.¹² Another study conducted to explore healthcare seeking behaviour among civil servants also reported that financial protection can increase likelihood of seeking treatment.¹³ Our study also found that rich people are more likely to seek treatment. Although there was slight difference in magnitude of people from the richest quintile (98.8%) and from poorest quintile (97%) who sought treatment, there was clear economic gradient. High medical care cost in case of low public health spending or high opportunity cost because of absence in job may be a plausible cause of this finding.

Although the private service providers are first source of treatment in almost all the states of India, percent of people using private service was higher in poor states (Bihar and UP) and percent of people using public health service was higher in wealthier states (Kerala and Tamil Nadu). This finding contrasts with the evidence from previous study which suggests that healthcare provider choice does not depend upon wealth of states because wealthy states do not essentially ensure high public health spending.¹⁴ An article in favour of our finding reveals that public health centres in Bihar lacks doctors to attend the patients and burden of treatment falls on nurses resulting into compromised quality because of which people lose faith.¹⁵ This study was conducted to find the association rather than causation of decision of selecting

percent of people seeking government provided health service across the states. When states were compared, there were only 3.8% people who accessed government hospital in Bihar compared to 54.4% people in Kerala. This table suggested that percentage of people in poor state (UP and Bihar) are far less than those in rich state (Kerala and Tamil Nadu) who sought government health care service.

When choice of service providers was compared in individual states, private service providers were most preferred choice in UP and Bihar while other service providers were 2nd preferred choice and government service providers were used by least percent of people. On the contrary, 54.4% people in Kerala used government service while only 44.1% used private service and only 1.5% people went for other service providers.

Gradient in mean value in table 2 has clearly shown percentage of people of seeking government service providers continuously decreased with increase in consumption per capita. On the contrary people seeking private service continuously increased (72.7% lowest quintile < 77.8% 2nd lowest quintile < 80.6% middle quintile < 81.1% 2nd highest quintile < 86.1% highest) with increase in consumption per capita. This suggested the association of choice of service providers with socioeconomic condition of the people. Government health care services are pro-poor while private health care services are pro-rich.

provider with states and SES. Therefore, further research is needed to find the cause of decision that results into choice of providers at state level. Regarding socio-economic status, this study found that rich people prefer private to government hospital while poor prefer government or other informal traditional health services. The plausible argument may be that the government service and other informal health services are pro-poor because studies show that these services are substantially less expensive than private.⁽¹⁶⁻¹⁸⁾

CONCLUSION

Study concludes that frequency of seeking service is high in all the selected four states. Wealthier people seek health care service more than the poor people and there is positive association of tendency of seeking service and consumption per capita. People in rich states like Kerala and Tamil Nadu prefer government healthcare service to private service provider. People with higher consumption per capital prefer private service providers while people with low consumption per capita prefer government healthcare service.

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