ACHSM Asia-Pacific Journal of Health Management

ACHSM CONGRESS 2025

THE INFLUENCE OF SOCIAL AND BEHAVIORAL DETERMINANTS FOR PROMOTING HEALTH IN ODISHA, INDIA

Ranjit Kumar Dehury[1], Pradeep Kumar Panda[2], Imteyaz Ahmad[*2], Parthsarathi Dehury[2], Manas Ranjan Behera[3], Janmejaya Samal[4], Nischala Sripathi[5], Abhishek Dondapati[6]*

1. School of Management Studies, University of Hyderabad, Telangana, India
2. School of Public Health, AIPH University, Bhubaneswar, India
3. School of Public Health, Kalinga Institute of Industrial Technology (KIIT) Deemed to Be University, Bhubaneswar, India
4. School of Public Health, SRM Institute of Science and Technology, Kattankulathur, Tamilnadu, India
5. ICFAI Business School Hyderabad, India
6. Administrative Staff College of India (ASCI), Hyderabad, India

Correspondence: imteyazahmad777@gmail.com

ABSTRACT

BACKGROUND:

Access to suitable healthcare reflects both service availability and its acceptability to users. While socioeconomic status (SES) is known to influence healthcare utilization, its independent effect on perceived access remains underexplored. This study examines how socioeconomic and behavioural factors shape perceived access to suitable sources of care for acute illnesses in Odisha, India.

METHODS:

A cross-sectional household survey was conducted from October 2022 to February 2023 across six districts of Odisha, namely, Rayagada, Kalahandi, Angul, Keonjhar, Khordha, and Kendrapara, representing tribal, industrial, and coastal regions. Using a structured questionnaire adapted from the WHO "Manual for Household Survey to Measure Access and Use of Medicine," data were collected from 902 households, of which 214 (23.7%) reported acute illnesses. Chi-square tests and binary logistic regression were applied to identify determinants of perceived access (Yes/No).

RESULTS:

Overall, 66.8% of households reported finding suitable care, while 33.2% did not. Most were rural (84.6%), and 74.3% sought care outside the home. Non-adherence to treatment was observed in 44.4% of cases. In the adjusted logistic model, location, care-seeking behaviour, treatment adherence, and medicine availability were significant predictors. Urban households had higher odds of accessing suitable care (AOR = 12.67, 95% CI = 1.73–92.82) than rural ones. Households seeking care outside the home (AOR = 4.24), adhering to prescribed medicines (AOR = 14.08), and maintaining medicine stock (AOR = 4.96) were more likely to perceive suitable care. Traditional SES indicators lost significance after adjustment.

CONCLUSION:

Behavioural and attitudinal factors outweighed socioeconomic indicators in determining perceived access to suitable healthcare. Strengthening health communication, promoting adherence, and addressing trust deficits in modern medicine are essential to improve utilization. Policy interventions should bridge rural–urban gaps and integrate culturally acceptable care models to ensure equitable access.

KEYWORDS
access to care, acute illness, socioeconomic determinants, behavioural factors, Odisha, India

INTRODUCTION

Treatment-seeking behaviour is shaped by multiple socioeconomic and contextual factors such as income, access time, distance to facilities, use of home remedies, autonomy, quality of care, and privacy [1]. Evidence consistently shows that wealthier households, with greater economic resources, are more likely to use healthcare services than poorer ones [2]. Among sociodemographic factors, education has been found to correlate with the duration of untreated psychosis, while variables like age, gender, marital status, and occupation show little association [3–7]. Nurhidayah et al. (2025) also identified education as a dominant factor influencing healthcare-seeking among Egyptian parents of children with cancer [8,9].

Low treatment-seeking behaviour has been observed for hypertension in economically weaker states such as Uttar Pradesh, Bihar, Odisha, Madhya Pradesh, and Jharkhand, largely due to unaffordable medicines and limited health services [10]. Similarly, in rural Tamil Nadu, communities continue to rely on local wound treatments for rabies despite awareness of anti-rabies vaccines; most of these households belong to middle or lower socioeconomic classes [11].
Ahsan et al. (2004) highlighted that socioeconomic constraints and gender disparities hinder timely treatment for tuberculosis (TB), with women more likely to remain undiagnosed or untreated [12]. Even though TB treatment is subsidised, stigma continues to discourage care-seeking [13]. In Laos, socioeconomic barriers also limited access to malaria treatment [14], although other studies suggested that financial status may not always determine care-seeking when home remedies serve as viable alternatives [14,15].

Satisfaction with healthcare depends on quality, provider behaviour, decision-making participation, and affordability [16]. Thus, choosing a "suitable source of care" is closely tied to households' socioeconomic circumstances.
This study focuses on perceived access to suitable care for acute illnesses, which impose sudden financial stress on households, especially those in middle and lower-income brackets. Such situations often prompt coping strategies like delayed treatment, reliance on home remedies, or no treatment at all. The primary objective is to examine the relationship between household socioeconomic status and perceived access to appropriate sources of care for acute illnesses in Odisha, India.

METHODOLOGY

RESEARCH DESIGN

A cross-sectional household survey was conducted across six purposively selected districts of Odisha: Rayagada, Kalahandi, Angul, Keonjhar, Khordha, and Kendrapara. Rayagada and Kalahandi represent highly tribal and economically vulnerable areas; Angul and Keonjhar are industrial zones with changing socioeconomic conditions; and Khordha and Kendrapara are relatively affluent coastal and capital districts with higher per-capita income. The study focused on access to medicines and out-of-pocket (OOP) expenditure.

SAMPLING

The sample size was calculated using the formula $n = z^2\ pq/d^2$ (where z = 1.96, p = 0.558 (55.8% prevalence of OOP expenditure on medicines), q = 1-p, d = 0.035 (3.5% precision)) [17] resulting in an estimated 928 households after adding 20% for non-response. Ultimately, 902 households were surveyed, with 26 responses discarded due to incomplete data.
A stratified random sampling design was employed. Two blocks were selected from each district—one being the district headquarters and one remote block. Each block was divided into five localities: one urban ward and four villages (north, south, east, and west). Households were randomly selected within these areas. Eligible households had to have resided

locally for at least five years, with at least two members, and respondents aged 18 years or older who actively contributed to the household.

Data were collected through door-to-door surveys between October 2022 and February 2023 by three trained field investigators. The questionnaire, developed by the research team based on the Manual for Household Survey to Measure Access and Use of Medicine, covered demographic details, accessibility, availability, and affordability of medicines, as well as socioeconomic indicators.

STUDY POPULATION AND VARIABLES

The analysis focused on acute illnesses, defined as sudden-onset, short-duration conditions requiring immediate care [18]. Such illnesses were chosen because they expose households to abrupt health and financial shocks, unlike chronic illnesses, where treatment choices evolve gradually. Among the 902 households, 214 (23.7%) reported at least one acute illness case.

Household demographic and behavioural characteristics were analysed using frequency and percentages. Associations between dependent and independent variables were tested using chi-square analysis. Variables showing significant associations were included in the binary logistic regression model to determine the Adjusted Odds Ratio (AOR), while Unadjusted Odds Ratios (UOR) were also calculated for comparison.

The dependent variable was derived from the survey question: "Did you find a suitable source of care for the acute illness?" Responses were coded as binary (Yes = 1, No = 0), representing the household's perceived access to appropriate care sources.

RESULTS

Table 1 provides insights into the demographic, socioeconomic, and healthcare-related characteristics of households surveyed. A significant majority of households lived in rural areas (84.6%), while only 15.4% of households were residents of urban areas. North Odisha districts have the highest representation (45.8%), followed by coastal districts (35%) and south districts (19.2%), indicating a diversity in the prevalence of acute illness across the regions.

Households belonging to the general category of social groups were the highest (35%), followed by the scheduled castes and the scheduled tribes' population (34.1%) (Table 1). Other backward castes constituted 30.8% of total acute illness prevalence in the selected districts. The largest portion of the household heads have primary-level education (40.7%), also a significant portion (35%) have no schooling. Secondary and higher education together constitute 24.3% of household heads, reflecting a low overall educational attainment. A sizable portion of households fall in the "Wealthy" category (45.3%), followed by "Middle" (30.4%) and "Poor" (24.3%). Households' medicine percentage share of total lump-sum monthly expenditure was highest (43%) in the range of 0.001% to 33%.

Most respondents considered the illness "Not that serious" (77.1%), while only 7.5% rated it "Very serious" (Table 1). About two-thirds (66.8%) reported finding suitable care, while 33.2% did not. A significant majority (74.3%) sought care outside the home, reflecting proactive healthcare-seeking behaviour. Adherence to prescribed medication was low (55.6%), and nearly 45% of acute illness patients were non-adherent to prescribed medication. The major cause of non-adherence was the "patient not willing to take the medicine" (29%). More than 10% of patients were non-adherent due to accessibility challenges such as cost, distance, unavailability and lack of time for treatment and medication.

Public hospitals were the most commonly used care providers (56.1%), while private hospitals accounted for 18.2% (Table 1). Notably, 25.7% did not receive care from any formal source. Also, 79% of households with acute illness did not have any medicine stock. Most households (83.6%) reported having no insurance or reimbursement, indicating high potential out-of-pocket expenses and financial vulnerability during illnesses.

TABLE 1: DEMOGRAPHIC AND BEHAVIOURAL BACKGROUND OF HOUSEHOLDS

Variable	Category	Frequency (Percent)
Location of the household	Rural	181 (84.6%)
	Urban	33 (15.4%)
Region/ districts	North districts (Angul+Keonjhar)	98 (45.8%)
	Coast districts (Kendrapara+Khordha)	75 (35%)
	South districts (Rayagada+Kalahandi)	41 (19.2%)
Gender of the household head	Male	170 (79.4%)
	Female	44 (20.6%)
Educational qualification of the household head	No schooling	75 (35.0%)
	Primary (up to 9th)	87 (40.7%)
	Secondary (10th)	30 (14.0%)
	Higher Secondary & above	22 (10.3%)
Occupation	Labourer	82 (38.3%)
	Farmer	55 (25.7%)
	Small shop business	38 (17.8%)
	Unemployed/ not working	5 (2.3%)
	Other	34 (15.9%)
Social groups	Scheduled caste/ Scheduled tribe	73 (34.1%)
	Other backward castes	66 (30.8%)
	General	75 (35%)
Wealth Index	Poor	52 (24.3%)
	Middle	65 (30.4%)
	Wealthy	97 (45.3%)
Medicine percentage share to the total lump-sum household expenditure in a month	No expenditure	72 (33.6%)
	0.001% to 33%	92 (43.0%)
	33.001% to 66%	29 (13.6%)
	66.001% to 100%	21 (9.8%)
Perceived seriousness of the illness	Not serious	165 (77.1%)
	Serious	33 (15.4%)

	Very serious	16 (7.5%)
Did you find a suitable source of care?	No	71 (33.2%)
	Yes	143 (66.8%)
Did you seek care outside the home?	No	55 (25.7%)
	Yes	159 (74.3%)
Source of care received during illness	Public care	120 (56.1%)
	Private care	39 (18.2%)
	None	55 (25.7%)
Did the sick person take all the medicines that were prescribed?	No	95 (44.4%)
	Yes	119 (55.6%)
Causes of non-adherence	Adherent	119 (55.6%)
	Not satisfied with prognosis	10 (4.7%)
	Costly/ Far/ No time/ Unavailable medicine	23 (10.7%)
	Patients were not willing to take the medicines, and other factors	62 (29.0%)
Do you have any medicines available at home today?	No	169 (79.0%)
	Yes	45 (21.0%)
Insurance/reimbursement	No	179 (83.6%)
	Yes	35 (16.4%)

Table 2 presents the relationship between socio-demographic variables and a binary outcome (Yes/No) of access to a suitable source of care for acute illness. The Pearson's Chi-Square test results indicate the statistical significance of these relationships.

A significant association exists between household location and the outcome (p=0.000). Urban households show high access to suitable sources of care (93.9%), while rural households have comparatively lower access (61.9%).

There is a statistically significant relationship (p = 0.047) with the region/districts variable. In the North districts (Angul and Keonjhar), the highest number of acute illness cases were reported. However, access to suitable sources of care was disproportionately higher in the southern districts (Rayagada and Kalahandi) (82.9%).

A significant relationship exists between occupation type and the outcome (p=0.046). Households engaged in "Others" category occupations report the highest access response rate (85.3%), while small shop businesses show the lowest (52.6%). However, the frequency is highest for the labourer group, and 69.5% of labourers reported access to a suitable source of care.

Sources of care and access to suitable care were also significantly associated. It shows that public care was the most utilized care compared to private. However, the proportion of access to suitable care had the least difference between

private and public care. At the same time, those who did not seek treatment from anywhere mostly mentioned that they did not have access to a suitable source of care.

Significant associations are observed for household location, region/district, and occupations, highlighting key socio-demographic factors that influence the outcome. In terms of behaviour, 'care sought outside home', sources of care, adherence to prescription, causes of non-adherence, and stock of medicines were also significant in relation to access to suitable sources of care. The variables with p-values below 0.05 warrant further investigation for potential policy and programmatic interventions.

TABLE 2: HOUSEHOLDS' DEMOGRAPHIC AND SOCIOECONOMIC INDICATORS' ASSOCIATION WITH SUITABLE SOURCES OF CARE

Variable	Category	Access to suitable sources of care		Total	p-value
		No (%)	Yes (%)		
Gender of household head	Male	56 (32.9%)	114 (67.1%)	170 (100)	0.885
	Female	15 (34.1%)	29 (65.9%)	44 (100)	
Education of household head	No schooling	19 (25.3%)	56 (74.7%)	75 (100)	0.112
	Primary (up to 9th)	37 (42.5%)	50 (57.5%)	87 (100)	
	Secondary (10th)	9 (30.0%)	21 (70.0%)	30 (100)	
	Higher Secondary & above	6 (27.3%)	16 (72.7%)	22 (100)	
Location of the household	Rural	69 (38.1%)	112 (61.9%)	181 (100)	0.000***
	Urban	2 (6.1%)	31 (93.9%)	33 (100)	
Region/ district	North districts (Angul+Keonjhar)	35 (35.7%)	63 (64.3%)	98 (100)	0.047*
	Coast districts (Kendrapara+Khordha)	29 (38.7%)	46 (61.3%)	75 (100)	
	South districts (Rayagada+Kalahandi)	7 (17.1%)	34 (82.9%)	41 (100)	
Social groups	Scheduled Caste/ Scheduled Tribe	24 (32.9%)	49 (67.1%)	73 (100)	0.200
	Other Backward Castes	27 (40.9%)	39 (59.1%)	66 (100)	
	General	20 (26.7%)	55 (73.3%)	75 (100)	
Insurance/ Reimbursement	No	57 (31.8%)	122 (68.2%)	179 (100)	0.349
	Yes	14 (40.0%)	21 (60.0%)	35 (100)	
Wealth Index	Poor	11 (21.2%)	41 (78.8%)	52 (100)	0.065
	Middle	27 (41.5%)	38 (58.5%)	65 (100)	
	Wealthy	33 (34.0%)	64 (66.0%)	97 (100)	
Household Occupation	Labourer	25 (30.5%)	57 (69.5%)	82 (100)	0.046*
	Farmer	21 (38.2%)	34 (61.8%)	55 (100)	
	Small shop business	18 (47.4%)	20 (52.6%)	38 (100)	
	Unemployed/ Not working	2 (40.0%)	3 (60.0%)	5 (100)	
	Others	5 (14.7%)	29 (85.3%)	34 (100)	
Medicine percentage share to the total lump-	No expenditure	27 (37.5%)	45 (62.5%)	72 (100)	0.394
	0.001% to 33%	25 (27.2%)	67 (72.8%)	92 (100)	
	33.001% to 66%	12 (41.4%)	17 (58.6%)	29 (100)	

sum household expenditure in a month	66.001% to 100%	7 (33.3%)	14 (66.7%)	21 (100)	
Perceived seriousness of the illness	Not serious	56 (33.9%)	109 (66.1)	165 (100)	0.361
	Serious	8 (24.2%)	25 (75.8%)	33 (100)	
	Very serious	7 (43.8%)	9 (56.3%)	16 (100)	
Care sought outside the home	No	40 (72.7%)	15 (27.3%)	55 (100)	0.000***
	Yes	31 (19.5%)	128 (80.5%)	159 (100)	
Source of care received during illness	Private care	7 (17.9%)	32 (82.1%)	39 (100)	0.000***
	Public care	24 (20%)	96 (80%)	120 (100)	
	None	40 (72.7%)	15 (27.3%)	55 (100)	
Did the sick person take all the prescribed medicines?	No	57 (60%)	38 (40%)	95 (100)	0.000***
	Yes	14 (11.8%)	105 (88.2%)	119 (100)	
Causes of non-adherence	Adherent	14 (11.8%)	105 (88.2%)	119 (100)	0.000***
	Not satisfied with prognosis	5 (50%)	5 (50%)	10 (100)	
	Costly/ Far/ No time/ Unavailable medicine	10 (43.5%)	13 (56.5%)	23 (100)	
	Patients were not willing to take medicines, and other factors	42 (67.7%)	20 (32.3%)	62 (100)	
Do you have any medicines available at home today?	No	64 (37.9%)	105 (62.1%)	169 (100)	0.005**
	Yes	7 (15.6%)	38 (84.4%)	45 (100)	
Total		71 (33.2%)	143 (66.8%)	214 (100)	

***p<0.001, **p<0.010, *p<0.050

Table 3 contains unadjusted (UOR) and adjusted (AOR) logistic regression models. The adjusted logistic regression model included only those independent variables that were found to be significantly associated with the 'perceived access to suitable sources of care' in the chi-square test shown in Table 2. However, unadjusted odds ratio analysis was performed to investigate the impact of individual independent variables on the dependent variable using logistic models.

The adjusted model demonstrated good fit (Hosmer–Lemeshow p = 0.949) and explanatory power (Nagelkerke $R^2 = 0.564$), with an acceptable −2 Log Likelihood value of 160.526, indicating that the specified predictors adequately explained the observed variation in the outcome.

Four variables retained statistical significance in the adjusted model: location, care-seeking outside the home, adherence to prescribed medicines, and availability of medicines at home. Urban households had substantially higher odds of accessing suitable sources of care compared with rural households (AOR = 12.67, 95% CI = 1.73–92.82), reflecting the advantages of urban health infrastructure and proximity to healthcare facilities. Seeking care outside the home was positively associated with appropriate care access (AOR = 4.24, 95% CI = 1.60–11.26), underscoring the role of proactive treatment-seeking behavior in improving access and outcomes.

Adherence to prescribed treatment was a strong predictor of access to suitable care (AOR = 14.08, 95% CI = 4.99–39.73). This suggests that treatment compliance is not only a behavioral outcome but also indicative of effective health system interaction and patient trust. Similarly, households maintaining a stock of essential medicines were nearly five times more

likely to access suitable care (AOR = 4.96, 95% CI = 1.62–15.23), highlighting the relevance of household preparedness and the accessibility of basic pharmaceuticals.

Some associations observed in unadjusted models were attenuated after adjustment. Education level, wealth index, and social group were significant in the bivariate analysis but lost significance in the multivariate model, suggesting mediation through behavioral and structural factors. Likewise, while care received from both public and private facilities was strongly associated with access in the UOR model, only public care remained significant after adjustment (AOR = 0.26, 95% CI = 0.08–0.87), possibly reflecting differential perceptions of care quality or satisfaction across providers.

Overall, the analysis demonstrates that both structural determinants (location, medicine availability) and behavioral determinants (care-seeking and adherence) critically influence access to suitable sources of care for acute illnesses in Odisha. These findings emphasize the need to strengthen rural healthcare infrastructure, ensure the availability of essential medicines, and promote adherence through targeted health communication and community-based interventions to achieve equitable healthcare access.

TABLE 3: MEASUREMENT OF ACCESS TO A SUITABLE SOURCE OF CARE USING THE ADJUSTED AND UNADJUSTED LOGISTIC REGRESSION MODELS

	UOR	Sig.	95% C.I.	AOR	Sig.	95% C.I.	VIF
Education of the HH Head							
No schooling (Reference.)		0.12		-	-	-	
Primary	0.46	0.02*	0.23-0.90	-	-	-	
Secondary	0.79	0.63	0.31-2.02	-	-	-	
Higher secondary & above	0.91	0.86	0.31-2.65	-	-	-	
Wealth Index							
Poor (Reference)		0.07		-	-	-	
Middle	0.38	0.02*	0.17-0.87	-	-	-	
Wealthy	0.52	0.1	0.24-1.14	-	-	-	
Social groups							
SC/ST (Reference)		0.2		-	-	-	
Other Backward Castes	0.71	0.33	0.35-1.41	-	-	-	
General	1.35	0.41	0.66-2.73	-	-	-	
Location							1.12
Rural (Reference)							
Urban	9.55	0.002**	2.22-41.16	12.67	0.012**	1.73-92.82	
Districts							1.23
North districts (Reference)		0.06			0.08		
Coast districts	0.88	0.69	0.47-1.64	0.46	0.24	0.12-1.7	
South districts	2.7	0.03*	1.08-6.72	2.55	0.17	0.67-9.78	
Occupation							1.1
Labourer (Reference)		0.06			0.16		
Farmer	0.71	0.35	0.35-1.46	0.38	0.13	0.11-1.31	
Small shop business	0.49	0.08	0.22-1.07	0.35	0.08	0.1-1.15	
Unemployed/ not working	0.66	0.66	0.1-4.18	0.62	0.71	0.05-7.41	
Others	2.54	0.08	0.88-7.34	1.48	0.61	0.33-6.62	
Seek care outside the home							6.28
No (Reference)							

Yes	11.01	0.00***	5.41-22.43	4.24	0.004**	1.6-11.26	
Care received during the illness							5.6
None (Reference)		0.00***			0.03		
Public care	10.67	0.00***	5.07-22.43	0.26	0.03	0.08-0.87	
Private care	12.19	0.00***	4.44-33.48	-	-	-	
Did the sick person take all the prescribed medicines?							2.32
No (Reference)							
Yes	11.25	0.00***	5.63-22.48	14.08	0.00***	4.99-39.73	
Causes of non-adherence							2.25
Adherent (Reference)		0.00***			0.36		
Costly/ Far/ No time/ Unavailable medicine	0.17	0.001**	0.06-0.47	3.22	0.19	0.56-18.45	
Patient not willing to take medicine and other factors	0.63	0.00***	0.03-0.14	1.69	0.41	0.48-5.94	
Not satisfied with prognosis	0.13	0.004**	0.3-0.52	-	-	-	
Do you have any medicines available at home today?							1.17
No (Reference)							
Yes	3.31	0.007**	1.39-7.85	4.96	0.005**	1.62-15.23	

***p<0.001, **p<0.010, *p<0.050

DISCUSSION

Socioeconomic and behavioural factors have long been studied as determinants of health outcomes, yet their independent influence on perceived access to suitable healthcare sources remains underexplored. Consistent with earlier findings, this study reaffirms that higher socioeconomic status is generally associated with better access to healthcare [1,2,19]. However, access does not automatically translate into utilization. True access exists only when services are both available and acceptable. Lantz [20] previously emphasized that disadvantaged populations face structural and cultural barriers to healthcare. Extending this view, the present study suggests that the issue may not always be socioeconomic disadvantage; rather, households across economic groups may refrain from seeking care due to perceptions of unsuitability, often rooted in distrust or negative beliefs about modern medicine [21].

Interestingly, households in southern Odisha reported higher satisfaction with healthcare access than those in the north, despite limited availability of pharmacies and facilities [22]. This paradox may be explained by the prominence of Indigenous and alternative medicine systems in tribal southern districts [23], where communities rely on traditional healing practices and feel less dependent on formal healthcare.

The rural-urban divide emerged as a significant determinant in the adjusted regression model. Urban households reported better access to suitable care, confirming enduring geographic disparities. Although rural healthcare infrastructure has improved, as noted by Arora (2024) [24], rural households still perceive difficulty finding suitable care sources.

While traditional socioeconomic variables, such as education, wealth, and social groups, were not statistically significant predictors, attitudinal and behavioural factors such as care-seeking outside the home and treatment adherence showed strong associations with perceived access. This highlights that behavioural patterns outweigh socioeconomic status when determining access. Households seeking care outside the home were more likely to perceive suitable services, whereas those remaining homebound or non-adherent tended to view available care as unsuitable.

The study, therefore, highlights the importance of examining the attitudinal and cultural dimensions of healthcare access in conjunction with conventional socioeconomic factors. Future research should adopt a mixed-methods approach to explore these behavioural dynamics more deeply.

STRENGTHS AND LIMITATIONS

A major strength of the study lies in establishing the dominant role of behavioural and attitudinal factors over socioeconomic determinants in shaping perceived access to care. However, the analysis lacks specific data on the contribution of alternative and Indigenous medicine systems, which might explain regional differences, especially the higher satisfaction levels in Odisha's tribal-dominated south. Incorporating these traditional practices into future studies would enrich understanding healthcare access patterns in culturally diverse regions.

CONCLUSION

Overall, two-thirds of households affected by acute illnesses reported satisfactory access to suitable care, yet nearly one-fourth did not seek treatment outside their homes, and many displayed poor treatment adherence. These findings reveal persistent gaps in public health outreach, suggesting that the health system must ensure the inclusion of every household, particularly in rural and underserved areas. Strengthening trust in modern medicine and addressing community perceptions are crucial for improving utilization. Policymakers should focus on bridging the rural–urban gap and integrating culturally acceptable care models to achieve equitable and sustainable healthcare access.

GRANTS:

The authors Acknowledge the IOE Project (Ministry of Education, Government of India), University of Hyderabad, India for financial support with grant no UoH/IoE/RC2/-21-004 dated 30/08/2021. The publication is one of the works of the project titled 'Access to essential medicine in the private and public healthcare system of Odisha: An assessment of different stakeholder'. However, the grant agency has no role in designing and conduct of the study by the researchers.

ACKNOWLEDGEMENT:

IOE Project (Ministry of Education, Government of India), University of Hyderabad, India for financial support with grant no UoH/IoE/RC2/-21-004 dated 30/08/2021).

ETHICAL APPROVAL:

Was obtained from institutes ethical clearance committee

CONSENT TO PARTICIPATE:

A written consent was obtained from participants before beginning the study

References

1. Bhanderi MN, Kannan S. Untreated reproductive morbidities among ever married women of slums of Rajkot City, Gujarat: the role of class, distance, provider attitudes, and perceived quality of care. J Urban Health 2010;87:254–63. https://doi.org/10.1007/s11524-009-9423-y.
2. Banerjee S, Roy Chowdhury I. Inequities in curative healthcare utilization among the adult population (20-59 years) in India: A comparative analysis of NSS 71st (2014) and 75th (2017-18) rounds. PLoS One 2020;15:e0241994. https://doi.org/10.1371/journal.pone.0241994.
3. Wong DTL, Tong SF, Daud TIM, Aziz SA, Midin M. Factors Influencing Professional Help-Seeking Behavior During First Episode Psychosis in Schizophrenia: An Exploratory Study on Caregivers' Perspective. Front Psychiatry 2020;10:962. https://doi.org/10.3389/fpsyt.2019.00962.
4. Sudhakar S, Poornachandrika P, Anandan H. Factors Influencing Duration of Untreated Psychosis. Int J Sci Stud 2017;4:109–11. https://doi.org/10.17354/ijss/2017/108.
5. Souaiby L, Gauthier C, Kazes M, Mam-Lam-Fook C, Daban C, Plaze M, et al. Individual factors influencing the duration of untreated psychosis. Early Intervention Psych 2019;13:798–804. https://doi.org/10.1111/eip.12562.
6. Agius M. Early intervention in psychosis. Minerva Psichiatr 2010;51:95–104.
7. Ananthi B, Sabari Sridhar O, Kailash S, Shajahan M, Srinivasan B. Factors affecting duration of untreated psychosis - a retrospective study done in general hospital setting. Int Arch Integr Med 2017;4:10–4.

8. Nurhidayah I, Hendriyani D, Adistie F, Nurhaeni N, Mediani H. Factors Influencing Treatment-Seeking Behavior Among Caregivers of Children with Cancer: A Scoping Review. JMDH 2025;Volume 18:563–78. https://doi.org/10.2147/JMDH.S497004.
9. Abdelkhalek ER, Sherief LM, Kamal NM, Soliman RM. Factors Associated with Delayed Cancer Diagnosis in Egyptian Children. Clin Med Insights Pediatr 2014;8:CMPed.S16413. https://doi.org/10.4137/CMPed.S16413.
10. Bhatia M, Kumar M, Dixit P, Dwivedi LK. Diagnosis and Treatment of Hypertension Among People Aged 45 Years and Over in India: A Sub-national Analysis of the Variation in Performance of Indian States. Front Public Health 2021;9:766458. https://doi.org/10.3389/fpubh.2021.766458.
11. Bharani K, Ramachandran K, Kommisetty V, Baalann KP. Knowledge of rabies among rural community in Chengalpet district, India. Bioinformation 2022;18:155–9. https://doi.org/10.6026/97320630018155.
12. Ahsan G, Ahmed J, Singhasivanon P, Kaewkungwal J, Okanurak K, Suwannapong N, et al. Gender difference in treatment seeking behaviors of tuberculosis cases in rural communities of Bangladesh. Southeast Asian J Trop Med Public Health 2004;35:126–35.
13. Anand T, Kumar DA, Sharma N, Saha R, Krishnamurthy L, Singh SV, et al. Perception of stigma towards TB among patients on DOTS & patients attending general OPD in Delhi. Indian J Tuberc 2014;61:35–42.
14. Ahorlu CK, Koram KA, Ahorlu C, de Savigny D, Weiss MG. Socio-cultural determinants of treatment delay for childhood malaria in southern Ghana. Trop Med Int Health 2006;11:1022–31. https://doi.org/10.1111/j.1365-3156.2006.01660.x.
15. Bhatia MR, Fox-Rushby JA. Willingness to pay for treated mosquito nets in Surat, India: the design and descriptive analysis of a household survey. Health Policy Plan 2002;17:402–11. https://doi.org/10.1093/heapol/17.4.402.
16. Atri V, Bhatt MT, Chaudhuri S, Mitra A, Maddani SS, Ravindranath S. Family's Perceived Needs and Satisfaction with Intensive Care Services: A Questionnaire-based Prospective Observational Study. Indian J Crit Care Med 2024;28:483–94. https://doi.org/10.5005/jp-journals-10071-24621.
17. Swain S, Samal S, Sahu K, Rout S. Out-of-pocket expenditure and drug adherence of patients with diabetes in Odisha. J Family Med Prim Care 2018;7:1229. https://doi.org/10.4103/jfmpc.jfmpc_24_18.
18. Lewer H, Robertson L. Nursing the acutely ill child and the child admitted for surgery. Care of the Child, London: Macmillan Education UK; 1987, p. 83–134. https://doi.org/10.1007/978-1-349-09488-2_14.
19. McMaughan DJ, Oloruntoba O, Smith ML. Socioeconomic Status and Access to Healthcare: Interrelated Drivers for Healthy Aging. Front Public Health 2020;8:231. https://doi.org/10.3389/fpubh.2020.00231.
20. Lantz PM. Socioeconomic Status and Health Care. International Encyclopedia of the Social & Behavioral Sciences, Elsevier; 2001, p. 14558–62. https://doi.org/10.1016/B0-08-043076-7/03828-6.
21. Babar Z-U-D, Hassali MAA, Shyong TL, Hin TK, Cien CS, Bin LS, et al. An evaluation of consumers' perceptions regarding "modern medicines" in penang, malaysia. J Young Pharm 2012;4:108–13. https://doi.org/10.4103/0975-1483.96625.
22. Dehury RK, Ahmad I, Behera MR, Manchana V, Dehury P, Behera D, et al. Genesis of People's Medicine Centre (PMC) for popularisation of generic medicine: A critical qualitative inquiry. Exploratory Research in Clinical and Social Pharmacy 2024;14:100455. https://doi.org/10.1016/j.rcsop.2024.100455.
23. Uniyal SK, Singh KN, Jamwal P, Lal B. Traditional use of medicinal plants among the tribal communities of Chhota Bhangal, Western Himalaya. J Ethnobiol Ethnomed 2006;2:14. https://doi.org/10.1186/1746-4269-2-14.
24. Arora M. Reduced burden on urban hospitals by strengthening rural health facilities: Perspective from India. Journal of Family Medicine and Primary Care 2024;13:1178–82. https://doi.org/10.4103/jfmpc.jfmpc_1561_23.