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OUT-OF-POCKET HEALTHCARE EXPENDITURE AMONG URBAN SLUM HOUSEHOLDS UNDER NATIONAL URBAN HEALTH MISSION: A STUDY OF KURNOOL DISTRICT

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ABSTRACT

Out-of-pocket healthcare expenditure remains one of the major socio-economic challenges affecting healthcare accessibility and healthcare utilization among vulnerable urban populations in India. Rapid urbanization, expansion of slum settlements, inadequate social protection, and dependence on informal employment have intensified financial vulnerability among urban poor households. In response to growing urban health inequalities, the Government of India introduced the National Urban Health Mission (NUHM) with the objective of strengthening urban primary healthcare systems and reducing healthcare-related financial burden among economically weaker populations. Despite expansion of Urban Primary Health Centres (UPHCs) and preventive healthcare programmes under NUHM, indirect healthcare expenditure and institutional inadequacies continue to affect affordability and continuity of healthcare services among slum households.

The present study examines the nature, extent, and determinants of out-of-pocket healthcare expenditure among urban slum households in Kurnool district of Andhra Pradesh. The study is based on both primary and secondary data collected from 580 respondents including urban slum households, healthcare providers, ASHA workers, ANM personnel, and administrative staff functioning under NUHM. Statistical tools such as percentage analysis, regression analysis, Chi-Square test, correlation analysis, and ANOVA were employed using SPSS software for empirical interpretation.

The findings reveal that Urban Primary Health Centres functioning under NUHM significantly reduced direct healthcare expenditure through subsidized consultations, free medicines, immunization services, maternal healthcare support, and preventive healthcare outreach programmes. However, transportation expenditure, wage loss during illness, diagnostic costs, and shortage of medicines continued to increase indirect healthcare burden among economically weaker households. Daily wage labourers, migrant workers, and low-income households experienced relatively higher financial vulnerability. The study further observed that healthcare awareness, social security coverage, and accessibility of healthcare institutions positively influenced reduction of healthcare expenditure among respondents.

The study concludes that strengthening healthcare infrastructure, expanding diagnostic facilities, reducing indirect healthcare costs, improving medicine availability, and strengthening healthcare outreach systems are essential for improving healthcare affordability and sustainability of urban public healthcare systems under the National Urban Health Mission.

Keywords: Out-of-Pocket Healthcare Expenditure, Urban Health, Healthcare Affordability, National Urban Health Mission, Urban Slums, Public Health, Health Economics, Kurnool District**.**

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1. INTRODUCTION

Healthcare expenditure constitutes an important component of socio-economic welfare and human development. In developing countries like India, out-of-pocket healthcare expenditure continues to remain one of the most significant barriers affecting healthcare accessibility and healthcare utilization among economically vulnerable populations. Although public healthcare systems are intended to provide affordable healthcare services, inadequate healthcare infrastructure, shortage of medical personnel, medicine unavailability, diagnostic costs, and indirect healthcare expenditure frequently compel vulnerable households to incur substantial healthcare-related financial burden.

Rapid urbanization in India has considerably transformed demographic and socio-economic structures during recent decades. Expansion of urban population, migration, industrialization, and growth of informal settlements have intensified pressure on urban healthcare systems. Urban slum populations frequently experience multiple socio-economic disadvantages including unstable employment, low household income, overcrowded housing conditions, poor sanitation, environmental hazards, and limited access to quality healthcare services. These socio-economic vulnerabilities substantially influence healthcare affordability and healthcare-seeking behaviour among urban poor populations.

Although urban areas possess relatively better healthcare infrastructure than rural regions, economically weaker urban households continue to face financial and institutional barriers affecting healthcare accessibility. Transportation expenditure, wage loss during illness, opportunity costs, diagnostic expenses, and medicine purchases outside public healthcare institutions significantly increase out-of-pocket healthcare expenditure among vulnerable urban populations. Such financial burdens frequently discourage timely healthcare utilization and adversely affect continuity of treatment among low-income households.

The Government of India introduced the National Urban Health Mission (NUHM) in order to strengthen urban primary healthcare systems and improve healthcare accessibility among vulnerable urban populations residing in slums and informal settlements. Through Urban Primary Health Centres (UPHCs), preventive healthcare programmes, healthcare outreach activities, maternal healthcare services, and immunization programmes, NUHM aims to reduce healthcare inequalities and strengthen affordability of healthcare services among urban poor households.

Kurnool district in Andhra Pradesh represents an important urban healthcare context characterized by rapid urbanization, socio-economic disparities, expansion of slum settlements, and increasing healthcare demand among economically vulnerable populations. Urban slum households in Kurnool district continue to depend substantially on public healthcare institutions due to affordability constraints and limited economic capacity. However, despite implementation of NUHM, indirect healthcare expenditure and institutional inadequacies continue to affect healthcare affordability among urban poor populations.

Against this background, the present study attempts to examine the extent and determinants of out-of-pocket healthcare expenditure among urban slum households functioning under the National Urban Health Mission in Kurnool district. The study further evaluates the role of Urban Primary Health Centres in reducing healthcare expenditure and analyses socio-economic factors influencing healthcare affordability among vulnerable urban households.

2. REVIEW OF LITERATURE

Urban health inequalities and healthcare expenditure have emerged as important areas of public health and development research in India. Several empirical studies have highlighted

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Journal Website www.nrjhrm.in

that urban slum populations experience greater healthcare vulnerability due to poverty, overcrowding, informal employment, environmental hazards, and inadequate social protection mechanisms.

Agarwal (2011) observed that urban poor populations experience significant disparities in healthcare accessibility and health outcomes when compared to economically better-off urban populations. The study emphasized that indirect healthcare expenditure and inadequate healthcare infrastructure continue to affect healthcare utilization among slum households.

Baru et al. (2010) examined inequalities in healthcare accessibility in India and observed that socio-economic conditions significantly influence healthcare utilization behaviour among vulnerable populations. The study highlighted that economically weaker households frequently postpone medical treatment due to financial constraints and healthcare affordability problems.

Patel and Kulkarni (2016) found that transportation expenditure, wage loss during illness, and diagnostic costs significantly increase healthcare-related financial burden among urban poor households. The study emphasized that indirect healthcare expenditure often discourages timely healthcare utilization among economically weaker populations.

Kundu (2014) observed that rapid urbanization and expansion of informal settlements have intensified socio-economic inequalities and healthcare disparities in Indian cities. The study highlighted the importance of strengthening urban public healthcare systems for improving healthcare accessibility among vulnerable urban populations.

Studies relating to NUHM suggest that Urban Primary Health Centres have contributed toward strengthening healthcare accessibility and affordability among slum populations through subsidized healthcare services and preventive healthcare outreach activities. However, staffing shortages, overcrowding, inadequate diagnostic facilities, and medicine shortages continue to affect operational efficiency of healthcare institutions.

Existing literature further indicates that healthcare awareness and social security coverage significantly reduce financial burden among vulnerable households. Households possessing healthcare awareness and institutional support mechanisms demonstrate relatively better healthcare utilization and lower healthcare expenditure compared to economically excluded populations.

Although several studies have examined healthcare accessibility and urban health inequalities in India, district-level empirical studies focusing on out-of-pocket healthcare expenditure under the National Urban Health Mission remain relatively limited, particularly in medium-sized urban centres such as Kurnool district. Therefore, the present study attempts to address this research gap through empirical analysis of healthcare expenditure patterns among urban slum households.

3. OBJECTIVES OF THE STUDY

To examine the extent of out-of-pocket healthcare expenditure among urban slum households.

To analyse socio-economic determinants influencing healthcare expenditure.

To assess the role of Urban Primary Health Centres in reducing healthcare expenditure.

To examine indirect healthcare costs such as transportation expenditure and wage loss.

To analyse variations in healthcare expenditure across occupational and income groups.

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To suggest policy measures for strengthening healthcare affordability among urban poor households.

4. HYPOTHESES OF THE STUDY

H1: Household income significantly influences out-of-pocket healthcare expenditure among urban slum households.

H2: Distance from Urban Primary Health Centres significantly affects healthcare expenditure.

H3: Healthcare awareness significantly reduces healthcare expenditure among respondents.

H4: Social security coverage positively influences healthcare affordability among vulnerable households.

5. RESEARCH METHODOLOGY

The present study adopted descriptive, analytical, and empirical research approaches for examining out-of-pocket healthcare expenditure among urban slum households functioning under the National Urban Health Mission. Both primary and secondary sources of data were utilized for the study.

Primary data were collected through structured interview schedules and questionnaires from urban slum households, healthcare providers, ASHA workers, ANM personnel, and administrative staff functioning under NUHM. The study also included institutional analysis of Urban Primary Health Centres functioning across selected Urban Local Bodies in Kurnool district.

The sample consisted of:

400 urban slum households,

100 healthcare providers,

65 ASHA and ANM workers, and 15 administrative personnel, constituting a total sample of 580 respondents.

The study covered major Urban Local Bodies including:

Kurnool Municipal Corporation,

Adoni Municipality,

Yemmiganur Municipality,

Nandyal Municipality,

Dhone Municipality, and other selected urban centres.

Statistical analysis was carried out using Statistical Package for Social Sciences (SPSS). Percentage analysis, regression analysis, Chi-Square test, correlation analysis, and ANOVA were employed for empirical interpretation and hypothesis testing.

6. RESULTS AND DISCUSSION

6.1 Monthly Out-of-Pocket Healthcare Expenditure

Healthcare Expenditure	Frequency	Percentage
Below ₹500	162	40.5
₹501–1000	118	29.5

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Healthcare Expenditure	Frequency	Percentage
₹1001–2000	76	19.0
Above ₹2000	44	11.0

Source: Field Survey Data, 2025.

The table reveals that a majority of respondents incurred healthcare expenditure below ₹1000 per month due to subsidized healthcare services available under the National Urban Health Mission. Urban Primary Health Centres significantly reduced direct healthcare expenditure through free consultations, immunization services, maternal healthcare support, and subsidized medicine distribution.

However, nearly 30 percent of respondents continued to incur healthcare expenditure above ₹1000 due to indirect healthcare costs and dependence on private diagnostic services. These findings indicate that although NUHM improved affordability of healthcare services, economically weaker households continue to experience financial burden due to institutional inadequacies and indirect healthcare expenditure.

6.2 Household Income and Healthcare Expenditure

Table 2: Household Income and Healthcare Expenditure

Income Category	Low Expenditure	Moderate Expenditure	High Expenditure	Total
Below ₹10,000	42	76	30	148
₹10,001–20,000	64	74	24	162
₹20,001–30,000	28	24	10	62
Above ₹30,000	14	10	4	28

Source: Field Survey Data, 2025.

The findings indicate that low-income households experienced relatively greater healthcare-related financial burden compared to higher income groups. Daily wage labourers and informal sector workers were particularly vulnerable due to unstable income and absence of adequate savings. The findings support the argument that socio-economic inequalities significantly influence healthcare affordability among urban slum populations.

The results are consistent with previous studies which observed that economically weaker households frequently postpone medical treatment due to financial constraints and healthcare expenditure burdens.

6.3 Transportation and Indirect Healthcare Costs

Table 3: Indirect Healthcare Costs among Respondents

Type of Expenditure	Frequency	Percentage
Transportation Costs	142	35.5
Wage Loss	118	29.5
Diagnostic Costs	76	19.0
Medicine Purchase Outside UPHC	42	10.5
Food and Miscellaneous Expenses	22	5.5

Source: Field Survey Data, 2025.

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Transportation expenditure emerged as the major indirect healthcare cost affecting affordability among respondents. Wage loss during illness also significantly increased financial burden among daily wage labourers and migrant workers. Several respondents reported that overcrowding and shortage of diagnostic facilities in UPHCs frequently forced them to depend upon private healthcare providers, thereby increasing healthcare expenditure.

These findings demonstrate that indirect healthcare expenditure continues to remain a major challenge affecting healthcare affordability among vulnerable urban populations despite expansion of healthcare infrastructure under NUHM.

6.4 Role of UPHCs in Reducing Healthcare Expenditure

Table 4: Respondents' Opinion on Reduction of Healthcare Expenditure under NUHM

Opinion	Frequency	Percentage
Highly Reduced	184	46.0
Moderately Reduced	142	35.5
Slightly Reduced	52	13.0
No Reduction	22	5.5

Source: Field Survey Data, 2025.

The table reveals that Urban Primary Health Centres significantly reduced direct healthcare expenditure among urban slum households through subsidized healthcare services and preventive healthcare programmes. Nearly 81.5 percent of respondents reported either high or moderate reduction in healthcare expenditure after utilizing healthcare services under NUHM.

The findings suggest that public healthcare interventions under NUHM substantially improved healthcare affordability among vulnerable households. However, institutional strengthening remains necessary for addressing indirect healthcare expenditure and improving operational efficiency of healthcare institutions.

6.5 Regression Analysis: Determinants of Healthcare Expenditure

Table 5: Regression Analysis Results

Variables	Regression Coefficient	t-value	Significance
Household Income	-0.428	-4.882	0.001
Healthcare Awareness	-0.316	-3.941	0.002
Social Security Coverage	-0.284	-3.118	0.004
Migration Status	0.218	2.442	0.018
Distance to UPHC	0.352	4.216	0.001

Source: Computed from Field Survey Data, 2025.

Regression analysis indicates that healthcare awareness and social security coverage significantly reduced healthcare expenditure among respondents. Households possessing healthcare awareness demonstrated better utilization of subsidized healthcare services and lower dependence on private healthcare institutions.

Migration status and greater distance from healthcare institutions significantly increased financial burden among respondents. The findings confirm that accessibility and socio-

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economic conditions substantially influence healthcare expenditure patterns among urban slum populations.

7. MAJOR FINDINGS

The National Urban Health Mission significantly reduced direct healthcare expenditure among urban slum households through subsidized healthcare services and preventive healthcare programmes.

Transportation expenditure and wage loss emerged as major indirect healthcare costs affecting healthcare affordability among vulnerable urban populations.

Low-income households and daily wage labourers experienced relatively higher financial burden due to unstable income and limited social protection mechanisms.

Healthcare awareness positively influenced healthcare utilization and reduced dependence on private healthcare providers.

Social security coverage significantly reduced healthcare-related financial burden among respondents.

Distance from healthcare institutions significantly increased out-of-pocket healthcare expenditure among vulnerable households.

Institutional inadequacies such as shortage of diagnostic facilities and medicine shortages continued to affect affordability and operational efficiency of healthcare services.

8. POLICY SUGGESTIONS

Expansion of free diagnostic services in Urban Primary Health Centres.

Strengthening medicine availability in public healthcare institutions.

Transportation support schemes for economically weaker households.

Strengthening healthcare insurance and social protection coverage.

Increasing healthcare outreach programmes in urban slum settlements.

Recruitment of adequate healthcare personnel for reducing overcrowding in UPHCs.

Expansion of healthcare infrastructure in densely populated slum areas.

Strengthening community healthcare awareness programmes.

9. CONCLUSION

Out-of-pocket healthcare expenditure continues to remain one of the major socio-economic challenges affecting healthcare accessibility and healthcare utilization among vulnerable urban populations in India. Although the National Urban Health Mission significantly improved affordability through subsidized healthcare services and preventive healthcare outreach activities, indirect healthcare expenditure continues to affect economically weaker urban households.

The study revealed that transportation expenditure, wage loss during illness, diagnostic costs, migration-related vulnerabilities, and institutional inadequacies significantly increased healthcare-related financial burden among urban slum populations in Kurnool district. Daily wage labourers, migrant workers, and low-income households were particularly vulnerable to financial distress associated with healthcare expenditure.

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The findings further demonstrate that healthcare awareness and social security coverage substantially improved healthcare affordability among respondents. Strengthening healthcare infrastructure, expanding diagnostic facilities, improving medicine availability, reducing indirect healthcare costs, and strengthening financial protection mechanisms are therefore essential for improving effectiveness and sustainability of urban healthcare systems functioning under the National Urban Health Mission.

The study concludes that strengthening urban primary healthcare systems and reducing financial barriers are essential for achieving equitable healthcare accessibility and sustainable urban public health governance in India.

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