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Impact of Chronic Illness on Family Dynamics in Low-Income Households: A Sociological Analysis

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Abstract
This study examines the multifaceted impact of chronic illness on family dynamics within low-income households, focusing on economic, emotional, and social dimensions. Chronic illness places significant strain on limited household resources, resulting in reduced income, increased medical expenditure, and compromised financial stability. Using data collected from 250 low-income families, the study analyzes changes in caregiving roles, decision-making patterns, emotional well-being, and social participation. The findings reveal that chronic illness often forces adult members and children to assume additional responsibilities, thereby disrupting traditional household roles and weakening family cohesion. The study also highlights heightened emotional stress, increased interpersonal conflicts, and reduced participation in social activities, emphasizing the broader social consequences of long-term illness. Statistical analyses indicate a strong association between illness severity and factors such as caregiving burden, household conflict, and financial distress. Overall, the study demonstrates that chronic illness is a catalyst for deep structural and relational shifts within already vulnerable households. The results underscore the need for sustained health support, financial assistance, and community-based interventions to mitigate the compounded effects of chronic illness on economically disadvantaged families.

Keywords: Chronic Illness, Low-Income Households, Family Dynamics, Caregiving Burden, Economic Stress, Emotional Well-Being, Sociological Analysis

1. Introduction

Chronic illness has become a major global health concern, exerting profound effects not only on individuals but also on their families, particularly those belonging to low-income households. Chronic diseases such as diabetes, hypertension, respiratory disorders, cancer, and renal conditions require long-term care, continuous monitoring, and sustained medical expenditure, which significantly influence family life, decision-making, relationships, and emotional well-being. The family, as the primary unit of care, absorbs the social, economic, and psychological consequences of illness, making chronic disease a complex sociological phenomenon rather than a purely medical issue. As Joensen, Christensen, and Thomsen argue, chronic illness creates an ongoing burden that reshapes everyday family functioning and responsibilities [12]. Low-income households, already struggling with limited resources and

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precarious employment, face compounded challenges when chronic illness enters the family structure.

Extensive sociological research highlights that chronic illness alters family roles, parenting responsibilities, economic participation, and interpersonal relationships. Cornwell and Hull's seminal work demonstrates that chronic illness disrupts normative patterns of family life, causing stress, role shifts, and emotional strain among caregivers and dependents [2]. In low-income families, these disruptions tend to be more severe because the illness often limits the earning capacity of affected members while simultaneously increasing medical expenses. Studies from various countries reveal a repeated pattern: families experience both direct financial costs and indirect socio-emotional consequences. For example, Jayathilaka et al. found that chronic illness in Sri Lanka significantly contributes to household financial distress, leading to debt, asset liquidation, and reduced spending on essential needs such as food and education [4]. Such findings are consistent across low-resource environments, indicating that chronic illness is closely intertwined with poverty.

2. Literature Review

A broader body of international evidence further underscores the economic vulnerability imposed by chronic illness. Okediji, Owoaje, and Adebiyi, studying Nigerian households, report that chronic illness reduces income, increases healthcare expenditure, and forces families to rely on informal borrowing, thus trapping them in long-term debt cycles [9]. Their study highlights that low-income families tend to postpone medical treatment or resort to cheaper, less effective therapies due to financial constraints. Similarly, Xu et al. found that elderly chronic patients in rural China face catastrophic health expenditures, often exceeding their household income and exacerbating financial instability [15]. These findings demonstrate that chronic illness is a driver of economic decline, particularly among socio-economically disadvantaged populations.

Beyond economic consequences, chronic illness imposes significant caregiving responsibilities on family members. Caregiving roles often shift from healthy adults to spouses, children, or elderly relatives, leading to a redistribution of familial tasks. Studies on caregiving burden reveal high emotional stress, fatigue, and anxiety among caregivers. Research by Alshahrani et al. on families of children with chronic diseases shows that caregiving involves long hours, emotional strain, and decreased participation in social activities [1]. Hashemi, Zare, and Yekta further emphasize that caregivers experience high physical and psychological burden, irrespective of socioeconomic background [7]. However, in low-income households, this burden is amplified due to the absence of professional care services, poor access to healthcare, and lack of financial support. The effects of chronic illness extend to family relationships and social participation. Hirschberg notes that chronic illness reduces opportunities for social engagement, isolates families from community support systems, and increases tension within households [10]. Hirsch and Williams additionally highlight that chronic illness often triggers conflict, guilt, and frustration among family members, especially when caring for chronically ill children [11]. Such relational strain is more pronounced in low-income households where

stressors related to employment, finances, and basic survival already persist. Van Wilder, Boudrez, and Clays report that families caring for chronically ill individuals often face social withdrawal, discrimination, and emotional exhaustion, further diminishing quality of life [14]. Several studies also emphasize the structural and social determinants underlying chronic illness and its consequences. Starfield et al. argue that socioeconomic position, education, housing quality, and access to healthcare strongly shape how chronic illness affects families and communities [13]. Prabarini and Sari reveal that chronic illness in low-income Indonesian families is tightly linked to poor living conditions, limited nutrition, and lack of preventive healthcare [8]. Such evidence reinforces the need to understand chronic illness not only as a biological condition but as a product of structural inequity that disproportionately harms marginalized families. During crises such as the COVID-19 pandemic, the vulnerabilities of families with chronic illness worsen. Moirano et al. found that children with chronic conditions in low-income households experienced severe disruptions in planned healthcare, further affecting family stability [11].

Reduced access to treatment, financial strain, and social restrictions added new layers of stress to already burdened families. The existing literature highlights several consistent themes: chronic illness reduces economic stability, burdens caregivers, increases emotional stress, and alters household roles and relationships. However, most studies focus on medical or economic perspectives, while fewer provide an integrated sociological analysis of how family dynamics evolve under the strain of chronic illness—especially among low-income households. Therefore, the present study fills this gap by offering a comprehensive sociological analysis of how chronic illness affects family dynamics in economically disadvantaged communities. It examines changes in income, role distribution, emotional well-being, social participation, and interpersonal relationships, providing insight into the everyday realities of families living under chronic health stress.

3. Research Methodology

This study uses a descriptive and analytical research design to examine how chronic illness affects family dynamics in low-income households. The research focuses on economic changes, caregiving roles, emotional stress, and social participation. The study area includes selected low-income urban and semi-urban neighborhoods, where chronic illness is prevalent and access to healthcare is limited.

3.1 Population and Sample Size

The population consists of families with at least one chronically ill member. A sample of 250 low-income households was selected using purposive sampling, ensuring representation of different types of chronic illnesses such as diabetes, hypertension, cancer, kidney disease, and respiratory disorders.

3.2 Data Collection

Both **primary and secondary data** were used.

- **Primary data** were collected through structured questionnaires, personal interviews, and household observations.

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- **Secondary data** came from health department reports, NGO records, hospital documents, and published research.

The questionnaire included sections on household income, healthcare expenditure, caregiving responsibilities, emotional well-being, and family relationships.

3.3 Tools for Data Analysis

Data were analyzed using descriptive statistics (percentages, means) and inferential tests including t-test, chi-square, correlation, and ANOVA to examine relationships between illness severity and family dynamics.

4. Results and Data Analysis

This result presents the empirical findings of the study conducted among 250 low-income households affected by chronic illness. The data reflect how chronic illness alters family functioning, financial stability, emotional relationships, caregiving roles, and social participation.

4.1 Socio-Demographic Profile of Respondents

Table 1: Age Distribution of Household Caregivers

Age Group (Years)	Frequency	Percentage (%)
18–30	52	20.8%
31–45	118	47.2%
46–60	61	24.4%
60+	19	7.6%
Total	**250**	**100%**

Most caregivers (47.2%) are between 31–45 years, indicating that responsibility mainly falls on economically active adults, increasing their burden.

Table 2: Monthly Household Income (Low-Income Category)

Income Range (₹)	Frequency	Percentage (%)
Below ₹6,000	71	28.4%
₹6,000–₹10,000	103	41.2%
₹10,000–₹15,000	56	22.4%
Above ₹15,000	20	8.0%
Total	**250**	**100%**

A majority (41.2%) earn between ₹6,000–₹10,000, confirming the economic vulnerability of sampled families.

4.2 Nature of Chronic Illness and Duration

Table 3: Type of Chronic Illness Affecting Household

Chronic Illness Type	Frequency	Percentage (%)
Diabetes	63	25.2%
Hypertension	54	21.6%
Tuberculosis	28	11.2%

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Cancer	19	7.6%
Chronic Kidney Disease	17	6.8%
Asthma/COPD	39	15.6%
Other prolonged conditions	30	12.0%
Total	**250**	**100%**

Diabetes and hypertension together account for nearly **47%**, making them the most common chronic illnesses in low-income households.

Table 4: Duration of Illness

Duration of Illness	Frequency	Percentage (%)
Less than 1 year	29	11.6%
1–3 years	81	32.4%
3–5 years	64	25.6%
More than 5 years	76	30.4%
Total	**250**	**100%**

Chronic illness is persistent: 30.4% have been ill for more than 5 years, showing long-term financial and emotional stress on families.

4.3 Economic Impact on Family

Table 5: Monthly Health Expenditure of Households

Health Expenditure (₹/month)	Frequency	Percentage (%)
Below ₹500	38	15.2%
₹500–₹1,000	84	33.6%
₹1,000–₹2,000	91	36.4%
Above ₹2,000	37	14.8%
Total	**250**	**100%**

A significant number (36.4%) spend ₹1,000–₹2,000 monthly on treatment—burdensome for low-income households.

Table 6: Reduction in Household Income Due to Illness

Income Reduction (%)	Households Affected	Percentage (%)
No reduction	28	11.2%
Up to 20%	97	38.8%
20–40%	74	29.6%
Above 40%	51	20.4%
Total	**250**	**100%**

Nearly **20.4%** families suffered income loss above **40%**, leading to financial instability.

4.4 Impact on Family Roles and Responsibilities

Table 7: Change in Household Role Distribution

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Role Distribution Changes	Frequency	Percentage (%)
Increased burden on spouse	109	43.6%
Children taking additional responsibilities	81	32.4%
Elderly members contributing	27	10.8%
No major change	33	13.2%
Total	**250**	**100%**

Both spouses and children bear additional responsibilities, affecting stability and well-being.

Table 8: Emotional Stress Levels Among Family Members

Stress Level	Frequency	Percentage (%)
Low	21	8.4%
Moderate	132	52.8%
High	97	38.8%
Total	**250**	**100%**

More than **38%** experience high emotional distress, showing strong psychological impact.

4.5 Caregiving Burden and Social Impact

Table 9: Caregiving Hours per Day

Hours per Day	Frequency	Percentage (%)
Less than 2 hours	34	13.6%
2–4 hours	103	41.2%
4–6 hours	71	28.4%
More than 6 hours	42	16.8%
Total	**250**	**100%**

Caregiving occupies a major part of family time, reducing earning opportunities and increasing stress.

Table 10: Social Participation Affected by Illness

Impact Level on Social Life	Frequency	Percentage (%)
No impact	23	9.2%
Mild impact	61	24.4%
Moderate impact	105	42.0%
Severe impact	61	24.4%
Total	**250**	**100%**

The majority (42%) reported moderate reduction in social life, while 24.4% faced severe isolation.

4.6 Psychological and Family Relationship Impact

Table 11: Impact on Family Relationships

Relationship Impact	Frequency	Percentage (%)
Improved bonding	41	16.4%
No major change	62	24.8%
Increased conflicts	147	58.8%

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Total	**250**	**100%**

Chronic illness often strains family harmony; 58.8% households reported increased conflicts.

4.7 Summary of Key Findings

Chronic illness significantly disrupts family dynamics in low-income households. Families experience increased financial burden, reduced income, and high medical expenditure, forcing them to prioritize treatment over basic needs. Caregiving roles shift dramatically, with spouses and children taking on additional responsibilities, often at the cost of education or work. Emotional stress levels are high, and reduced social participation leads to further isolation. Family relationships undergo strain, with many reporting increased conflict. Overall, chronic illness creates complex and interlinked economic, emotional, and social challenges within low-income families.

4.8 Hypothesis Testing

To analyze the impact of chronic illness on family dynamics in low-income households, several hypotheses were formulated. Appropriate statistical tools such as paired t-test, chi-square test, ANOVA, and correlation analysis were applied to test the assumptions. The results are presented below.

Hypothesis 1: Chronic Illness Significantly Reduces Household Income

H_0 (Null Hypothesis): Chronic illness does **not** significantly reduce household income.

H_1 (Alternative Hypothesis): Chronic illness **significantly reduces** household income.

Table 12: Paired Sample t-Test (Income Before Illness vs. After Illness)

Income Status	Mean (₹)	SD	N	t-value	p-value
Before Illness Income	10,820	2,930	250	**14.52**	**0.000**
After Illness Income	7,460	3,110	250		

The p-value (0.000) is less than 0.05; therefore, H_0 is rejected. Chronic illness has a statistically significant negative impact on household income.

Hypothesis 2: Chronic Illness Is Associated with Increased Household Conflicts

H_0: Chronic illness and family conflict levels are not associated.

H_1: Chronic illness is significantly associated with increased family conflicts.

Table 13: Chi-Square Test (Illness Severity × Family Conflict)

Severity of Illness	Low Conflict	Moderate Conflict	High Conflict	Total
Mild	21	32	18	71
Moderate	13	41	36	90
Severe	6	28	55	89
Total	**40**	**101**	**109**	**250**

Chi-square value = 26.84

df = 4

p = 0.000

Since p < 0.05, H_0 is rejected. Higher illness severity is strongly associated with increased family conflict.

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Hypothesis 3: Chronic Illness Significantly Increases Caregiving Burden

H_0: Illness severity has no effect on caregiving hours.

H_1: Illness severity significantly increases caregiving burden.

Table 14: ANOVA – Illness Severity and Caregiving Hours

Source of Variation	SS	df	MS	F-value	p-value
Between Groups	143.52	2	71.76	**9.87**	**0.000**
Within Groups	1793.40	247	7.26		
Total	1936.92	249			

Since $p < 0.05$, H_0 is rejected. Illness severity has a significant effect on caregiving hours, indicating that severe illness leads to increased caregiving burden.

Hypothesis 4: Health Expenditure is Positively Correlated with Emotional Stress in Families

H_0: There is no correlation between monthly health expenditure and emotional stress.

H_1: Monthly health expenditure positively correlates with emotional stress.

Table 15: Correlation Between Health Expenditure and Emotional Stress Score

Variable	Mean	SD	Correlation (r)	p-value
Monthly Health Expenditure	1,280	690	0.578	0.000
Emotional Stress Score (1–10)	6.84	1.91		

Correlation value $r = 0.578$ indicates a **moderately strong positive relationship**. Since $p < 0.05$, **H_0 is rejected**.

Higher medical expenses significantly increase emotional stress within low-income households.

Hypothesis 5: Children in Chronically Ill Families Take on Significantly More Responsibilities

H_0: Chronic illness does **not** significantly influence children's household responsibilities.

H_1: Chronic illness **significantly increases** children's household responsibilities.

Table 16: t-Test (Children's Responsibilities Before vs. After Illness)

Responsibility Level	Mean Score	SD	N	t-value	p-value
Before Illness	2.18	0.94	250	15.30	0.000
After Illness	3.71	1.12	250		

With $p < 0.05$, **H_0 is rejected**. Children in affected families experience a **significant increase** in household responsibilities.

The findings of this study reveal that chronic illness imposes a profound and multidimensional burden on low-income households, significantly altering their economic stability, social

functioning, and family relationships. The results show that chronic illness leads to noticeable reductions in household income and increased medical expenses, confirming the economic vulnerability of low-income families. These financial pressures often force families to divert resources from essential needs such as education, nutrition, and housing, thereby deepening existing poverty. The shifting of roles within the household is also evident, where spouses and children adopt additional caregiving responsibilities, sometimes compromising children's educational continuity and adults' ability to work. Emotional stress emerges as a major consequence, with high levels of anxiety and conflict within families, highlighting the psychological strain that illness imposes on all members. Furthermore, social participation declines drastically, indicating that chronic illness not only affects the private sphere of the household but also isolates families from their community networks and support systems. These findings collectively demonstrate that chronic illness is not an individual health problem but a family-level crisis with economic, emotional, and social ramifications. The study underscores the need for improved public health support, financial protection mechanisms, and community-based interventions to alleviate the layered burdens experienced by low-income households.

5. Conclusion

This study concludes that chronic illness significantly disrupts the economic, emotional, and social fabric of low-income households, creating multidimensional challenges that extend far beyond health-related concerns. The findings show that chronic illness intensifies financial instability through reduced income and high medical expenditures, while simultaneously altering family roles and placing increased caregiving responsibilities on spouses and children. Emotional strain and interpersonal conflicts rise as families struggle to balance caregiving demands with daily survival needs, often leading to stress, frustration, and weakened family cohesion. Social participation also declines, contributing to isolation and declining community support. These interconnected impacts demonstrate that chronic illness is not only a medical issue but a complex sociological phenomenon that reshapes household functioning and well-being. The study emphasizes the urgent need for targeted health services, financial protection mechanisms, and community-based support programs that can help reduce the burden on vulnerable families and promote resilience in the face of chronic health challenges.

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