

Housing Conditions and Health Outcomes Among Dalit Households in Rural Prayagraj

Shruti Sinha¹, Prof. Lalima Singh²

¹ Research Scholar, Department of Sociology, S S Khanna Girls' Degree College, University of Allahabad

²Principal, Department of Sociology, S S Khanna Girls' Degree College, University of Allahabad

ABSTRACT: Housing is an important determinant of health and disease prevalence. It has a sociological dimension that has a role in understanding health in rural Indian contexts. This paper examines the relationship between housing conditions, infrastructure, and health outcomes among Dalit households in rural Prayagraj district. The study involves a primary survey of 50 Dalit households in rural Prayagraj. The paper analyses multiple dimensions of housing quality, such as type of house type, ownership status, ventilation, access to sunlight, sanitation facilities, drainage systems, drinking water sources, dampness, pest prevalence, and socio-economic factors such as education and income. The findings reveal housing deprivation characterised by semi-pucca and kachcha structures, inadequate ventilation and sunlight, poor drainage, dependence on a poor source of drinking water, and high prevalence of dampness and pest infestation. Studying these housing conditions is significant because they are linked to respiratory illness, communicable diseases, fungal infections, and mental stress. The paper also argues that housing infrastructure functions as a mechanism of social reproduction by transmitting health disadvantages. The paper concludes that health outcomes result from the quality of housing, sanitation, water supply, as well as income security, among other factors.

KEYWORDS: Housing Condition, Health Outcomes, Dalits, Physical Health, Mental Health.

INTRODUCTION

'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (World Health Organisation [WHO], 1948). It is shaped by a range of social determinants such as education, income, sanitation, housing, gender, caste, and access to resources that biomedicine often fails to recognise. As a result, health outcomes are deeply ingrained in social structures. For example, in India, caste plays a crucial role in determining access to different opportunities and resources. Disadvantages combine to affect living conditions and ultimately the health and well-being of an individual.

Housing is one of the most important factors that affect health. A house not only provides shelter for household members but also a reflection of a person's social status. Poor housing can cause anything from discomfort to serious health issues.

The impact of poor housing may range from physical discomfort to different health issues. The type of building materials used, the presence of adequate ventilation, overcrowding due to large family size, dampness from leakage, pest infestation, sanitation facilities, access to safe water, and waste disposal mechanisms all affect the health status of household members (Marmot, 2005). Lack of adequate ventilation, overcrowded rooms, leaking roofs, damp walls, and unhygienic surroundings increase the risk of disease. Long-term exposure to indoor pollutants—such as smoke, nitrogen dioxide, gases from cooking, and toxic chemicals from construction materials has been associated with respiratory problems, asthma, headaches, and other illnesses. Women, children, and elderly persons are especially vulnerable due to spending more time within the household.

According to the World Health Organisation (WHO, 2018), healthy housing is shelter that supports a state of complete physical, mental and social well-being. Healthy housing gives a sense of belonging, security and privacy. Healthy housing also refers to the physical structure of the dwelling, and the extent to which it enables physical health, including by being structurally sound, by providing shelter from the elements and from excess moisture, and by facilitating comfortable temperatures, adequate sanitation and illumination, sufficient space, safe fuel or connection to electricity, and protection from pollutants, injury hazards, mould and pests. Whether housing is healthy also depends on factors outside its walls.

According to UN Habitat, everyone has a fundamental human right to housing, which ensures access to a safe, secure, habitable, and affordable home. Improved housing conditions can save lives, prevent disease, increase quality of life, reduce poverty, and help mitigate climate change.

Housing in rural India is connected with social position. The type, ownership, and quality of housing are outcomes of economic resources and access to public services (Deshpande, 2019). Previous studies show a link between inadequate housing conditions

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and adverse health outcomes like respiratory infections, tuberculosis, waterborne diseases, vector-borne illnesses, and psychological stress (Evans, Wells, & Moch, 2003; Marmot, 2005). Housing acts as a pathway through which social identity takes the form of health inequality. Over time, these conditions contribute to the reproduction of intergenerational disadvantage, reinforcing cycles of poverty, poor health, and social exclusion.

Bullard (1993) argued that socially marginalised communities undergo the brunt of environmental hazards due to unequal access to public infrastructure. Dalits face issues like inadequate drainage, poor sanitation, unsafe drinking water, and inferior housing conditions mainly because of a hierarchical caste-based structure. Housing inequality is, therefore, an important mechanism through which inequalities are translated into health inequalities.

Caste-based residential segregation is a common feature in rural India. Dominant castes tend to occupy areas with better infrastructure and public amenities, whereas castes such as Dalits are pushed to the peripheries. Dalit communities have historically faced trouble in land ownership and access to common resources like wells and continue to face housing problems and spatial segregation. Their settlements are located on the edges of villages, near sites such as open drains, stagnant water, waste dumps, and flood-prone zones (Shah et al., 2006; Bhattacharya, 2017).

Sanitation is also linked to housing and health. Esrey et al. (1991) stated that improved sanitation and access to safe drinking water reduce the prevalence of diseases like diarrhea, cholera, and typhoid.

Houses with inadequate ventilation, dampness, mould growth, and indoor pollutants are associated with a higher rate of asthma, chronic obstructive pulmonary disease (COPD),¹ respiratory illness, and allergies (Krieger & Higgins, 2002). Improving ventilation, reducing moisture, and maintaining housing quality are shown to significantly reduce respiratory morbidity, particularly among children and older adults.

Housing conditions also profoundly affect mental health. Galea, Freudenberg, and Vlahov (2005) argue that neighbourhood deterioration, overcrowding, poor housing quality, and environmental insecurity contribute to chronic stress, anxiety, depression, and reduced social cohesion. Housing conditions also determine emotional well-being, stress levels, family relationship status, and quality of life. These are serious among socially marginalised populations who are experiencing economic deprivation.

NFHS-5 data suggest that Dalit households still lag behind other caste groups in securing pucca houses, sanitation facilities, clean cooking fuels, safe drinking water, and hygienic living conditions. These problems arise from economic instability and landlessness. Goli, Maurya, and Sharma (2015) highlighted that more Dalit families live in temporary or semi-permanent homes because of financial problems, which highlights broader inequalities in wealth, power, and social status.

These issues are also evident in rural eastern Uttar Pradesh. In Othgi Tarhar village of Prayagraj district, residential segregation was observed along with inadequate housing infrastructure. Although much research has examined how caste, housing, and health are interconnected, there is still a lack of empirical studies in the interiors of rural areas in Prayagraj.

This paper explains how housing conditions, which are shaped by social structure, mediate both physical and mental health. This review of previous studies highlights housing as a pathway that is linked to health outcomes, particularly for marginalised groups in rural India.

OBJECTIVES OF THE STUDY:

The present study aims to explore the relationship between housing conditions and health outcomes among Dalit households in the village of Othgi Tarhar in rural Prayagraj. The specific objectives of the study are:

1. To explore the housing conditions and health outcomes among Dalit households.
2. To analyse the physical and mental health problems due to poor housing.

RESEARCH METHODOLOGY:

The study employed a quantitative cross-sectional research design in order to investigate the relationship between housing conditions and health outcomes among Dalit households in Othgi Tarhar village of Prayagraj district, Uttar Pradesh. A cross-sectional approach was considered appropriate as it allows examination of the impact of existing housing conditions on health outcomes within a specific period. The research is based on a survey using an interview schedule conducted between September 2025 and January 2026.

The study adopted purposive sampling so as to focus exclusively on Dalit households residing in the village. A total of 50 Dalit households were selected for the survey. The household was selected as the unit of analysis, and an interview was conducted with adult members aged 18 or older. Data were collected after a comprehensive review of the previous literature on housing, health inequality, caste-based exclusion, and social determinants of health. The interview schedule included questions on house type, its ownership status, availability of a separate kitchen, ventilation, access to sunlight, sanitation facilities, drainage systems, drinking water sources, dampness, and health-related problems. Attention was also given to diseases commonly associated with poor

¹ Chronic obstructive pulmonary disease (COPD) is a common lung disease causing restricted airflow and breathing problems. It is sometimes called emphysema or chronic bronchitis.

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housing conditions, such as respiratory ailments, communicable diseases, fungal infections, and mental stress. Once data were thoroughly collected, the information was carefully reviewed and coded before analysis. The researcher used statistical methods, including frequencies and percentages, to summarise the socio-economic status of the respondents, housing characteristics, and health conditions. To explore the relationship between housing variables and health outcomes, cross-tabulation was employed. This helped identify and assess associations between environmental conditions and reported illnesses. The findings were presented in tables and charts to help understand the interplay between housing infrastructure and health outcomes in rural Prayagraj.

Variable Type	Variables Included
Dependent Variable	Health Outcomes and Well-being: Health status (respiratory illness, communicable diseases, fungal infections, mental stress, self-reported health problems)
Independent Variables	Housing Variables: Type of house, ownership status, separate kitchen, ventilation, sunlight Environmental Variables: Toilet facility, drainage system, source of drinking water, dampness/leakage, pest infestation Socio-economic Variables: Education, occupation, income Demographic Variables: Age, gender, family size

Conceptual Linkages Between Housing Deprivation and Health Outcomes

Housing Variable	Physical Health Impact	Mental Health Impact	Women-Specific Impact
House Type	Respiratory illness, fungal infection	Housing insecurity	Greater domestic exposure
Kitchen	Smoke-related illness	Daily discomfort	Continuous cooking smoke exposure
Ventilation	Asthma, cough, breathing difficulty	Poor indoor comfort	Higher exposure among women
Sunlight	Dampness-related illness	Stress and poor well-being	Long indoor exposure
Toilet Facility	Communicable diseases, Kidney stone problem	Lack of privacy and dignity	Greater gendered burden
Drainage	Water-borne diseases	Environmental stress	Increased domestic exposure
Water Source	Diarrhea diseases	Anxiety about water safety	Responsibility for water collection
Dampness	Respiratory and skin diseases	Housing dissatisfaction	Longer exposure due to domestic work

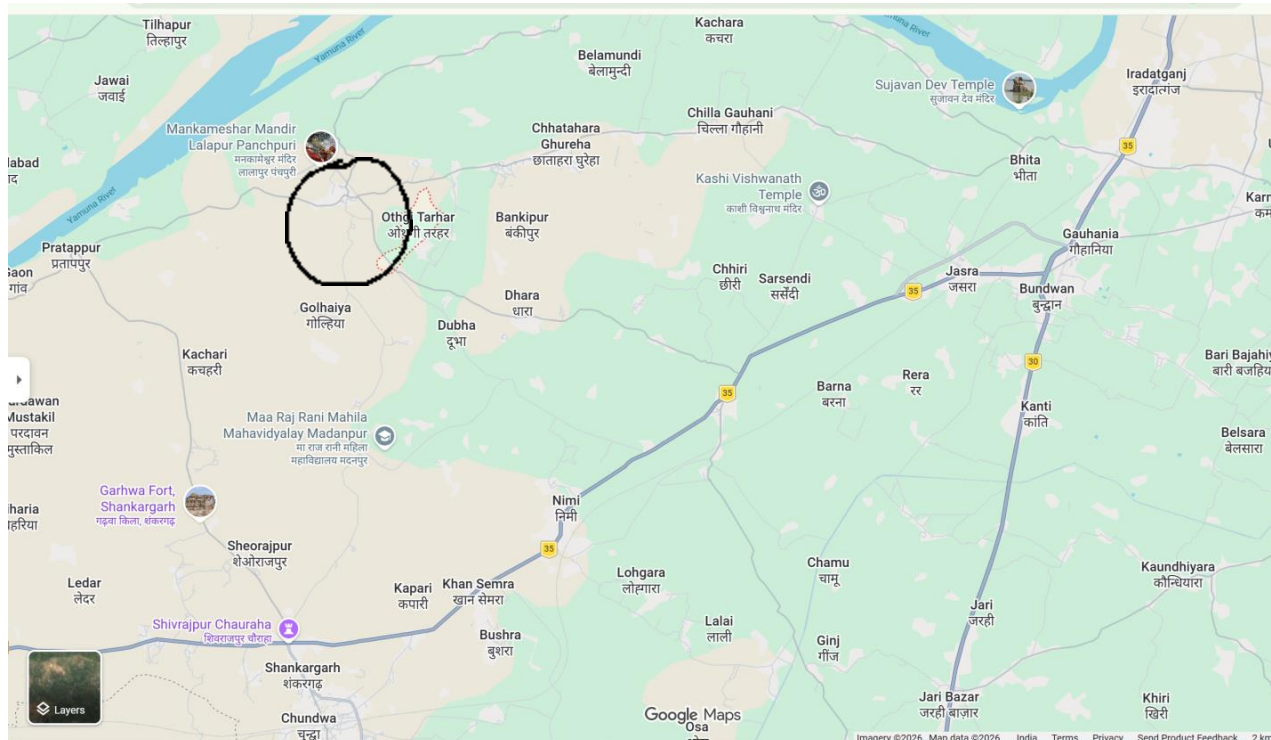
BACKGROUND OF THE STUDY AREA:

Study Area: Othgi Tarhar Village, Prayagraj District, Uttar Pradesh

Othgi Tarhar is a rural village situated in the Prayagraj district of Uttar Pradesh. The village is located in the fertile alluvial plains of the Ganga-Yamuna region. The village reflects many of the socio-economic and cultural features commonly associated with rural north India. The population of Othgi Tarhar comprises several caste groups, but Dalits constitute a major segment. Othgi Tarhar serves as a valuable case study for examining the links between housing quality, health outcomes, and caste-based inequalities in rural settings. This village has comparatively limited access to infrastructure and public services.

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Map 1: Othgi Tarhar Village, Prayagraj District



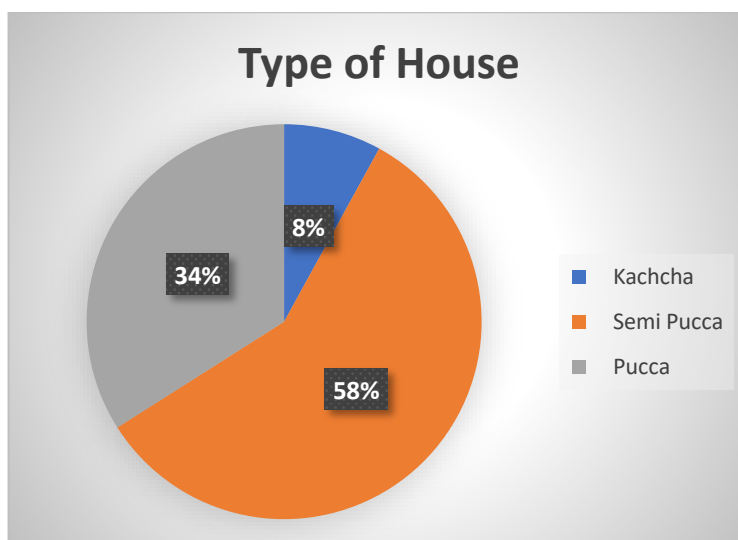
Source: Google Maps

RESULT AND DISCUSSION

Table 1. Type of house

Type of house	Frequency
Kachcha	04 (8%)
Semi Pucca	29 (58%)
Pucca	17 (34%)
Total	50 (100%)

The study found that 58% of respondents live in semi-pucca houses, 34% in pucca houses, and 8% in kachcha houses. Data from the NFHS-5 (2019–21) report indicated that 40.5% lived in pucca, 53.7% in semi-pucca houses, and 5.7% in kachcha houses. The comparison between the study area and NFHS data indicates that the situation is even worse in the village. This gap highlights housing deprivation among Dalits, even after government initiatives such as the Pradhan Mantri Awaas Yojana (Gramin).



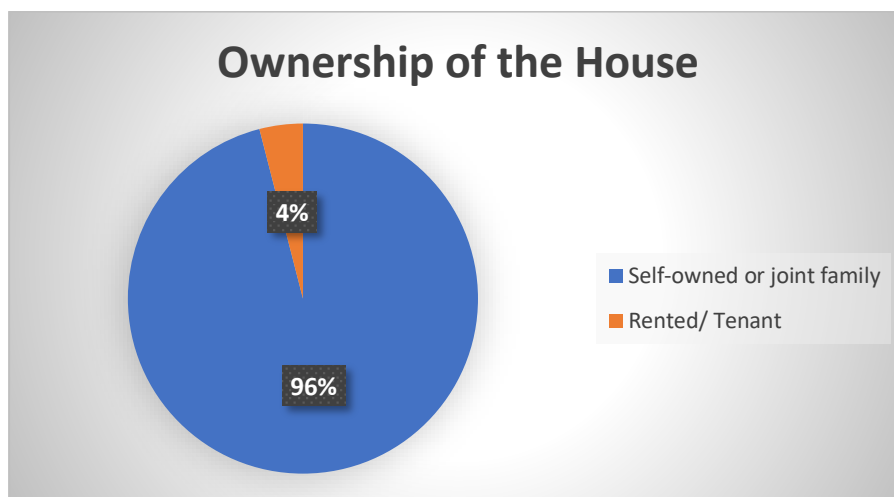
Source: Primary Data

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Table 2. Ownership of House

Ownership of the house	Frequency
Self-owned or joint family	48 (96%)
Rented/ Tenant	02 (4%)
Total	50 (100%)

The study found that 96% of the respondents live in self-owned houses in the form of nuclear or joint families. This data aligns with the NFHS-5 report, which showed high ownership rates in rural areas. However, just 40.5% of the households in Uttar Pradesh live in pucca houses, which is an even lower rate among Dalits. Although house ownership offers stability and security, it does not suffice, as many Dalit families inherit houses that lack basic amenities, especially in kuccha and semi-pucca houses.

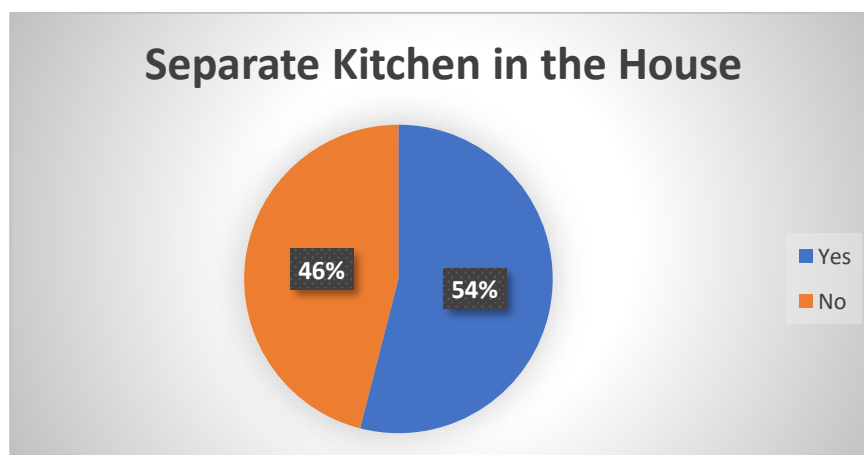


Source: Primary Data

3. Separate Kitchen

Separate kitchen in the house	Frequency
Yes	27 (54%)
No	23 (46%)
Total	50 (100%)

The findings suggests that only 54% of households reported having a separate kitchen. Many households use firewood or cow dung as biomass fuels for cooking purposes either due to unavailability or due to the high cost of LPG cylinders. This exposes mostly women and children to smoke, who spend most of their time indoors, and leads to associated health risks. The absence of a separate kitchen or poor kitchen facilities raises the risk of respiratory illnesses because they get exposed to harmful smoke and particles present as indoor air pollutants, directly impacting well-being.



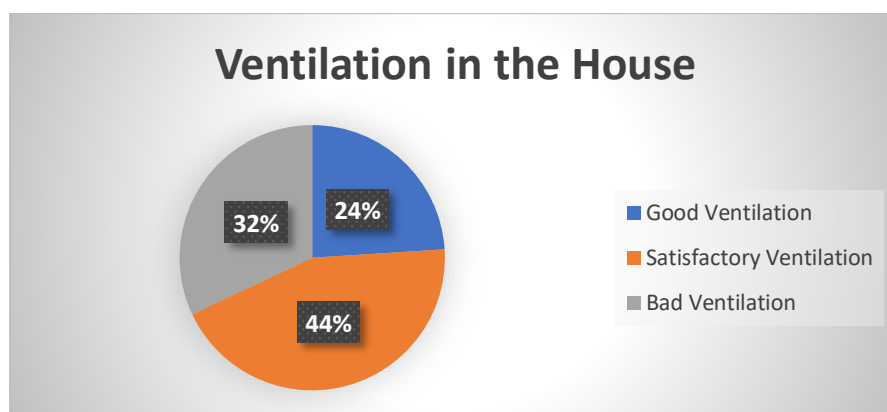
Source: Primary Data

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Table 4. Ventilation

Ventilation in the house	Frequency
Good Ventilation	12 (24%)
Satisfactory Ventilation	22 (44%)
Poor Ventilation	16 (32%)
Total	50 (100%)

The findings from the study show that nearly half (44%) of respondents live in houses with satisfactory ventilation, 24% with good ventilation, and 32% with poor ventilation. According to data from the NSS 69th Round (2012), 26.3% of rural households had good ventilation, 48.8% had satisfactory ventilation, and 24.9% had poor ventilation. The study area has limited good-ventilated households and more poorly ventilated homes than the NSS data. Although nearly half of households have satisfactory airflow, many face indoor air pollution and smoke, leading to respiratory illnesses, particularly among women, children, and older adults who spend more time indoors.

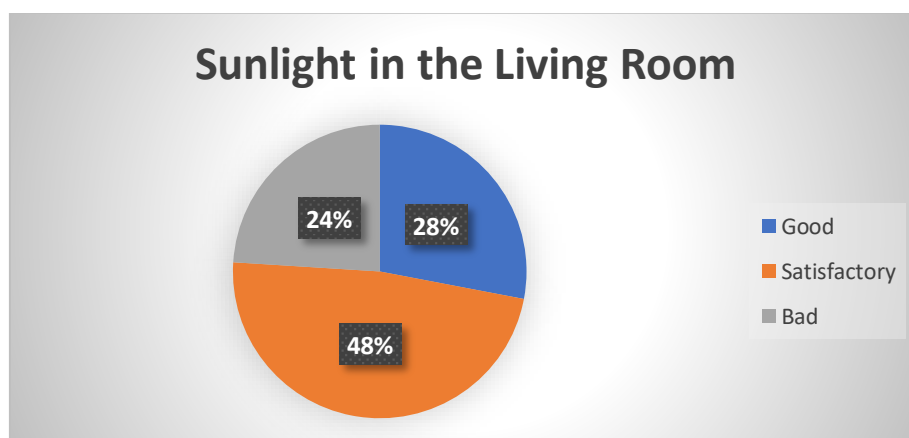


Source: Primary Data

Table 5. Sunlight in the living room

Sunlight in the living room	Frequency
Good	14 (28%)
Satisfactory	24 (48%)
Bad	12 (24%)
Total	50 (100%)

The data show that 48%, or half of the respondents, report satisfactory sunlight in their living rooms. In contrast, only 28% receive adequate sunlight, while 24% experience inadequate exposure. Although nearly half enjoy moderate natural light, only a quarter have sufficient sunlight, revealing that many Dalit households still face poor indoor conditions. Insufficient sunlight in living rooms leads to dampness, mould, hygiene issues, and poor ventilation, all of which can heighten health risks. Evans et al. (2003) associated substandard housing with respiratory and mental health problems, mostly affecting women who spend more time indoors.



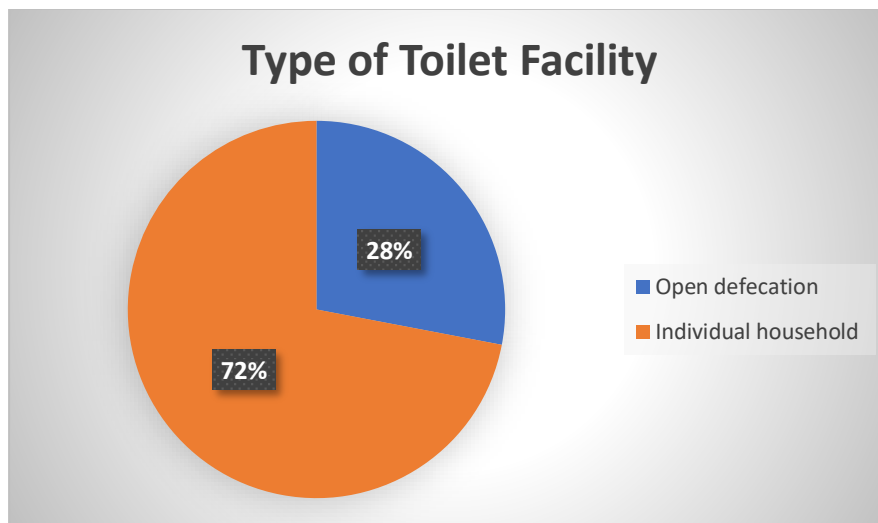
Source: Primary Data

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Table 6. Type of Toilet facility

Type of Toilet facility	Frequency
Open defecation	14 (28%)
Individual household	36 (72%)
Total	50 (100%)

The data reveal that 72% of the households have a toilet facility. However, the percentage is lower than Uttar Pradesh (78%) and the national (80.6%) averages. The sanitation problem is reflected in the data, showing that 28% of households still lack a toilet facility and hence depend on open defecation. The prevalence of open defecation highlights the lacuna in the implementation of government initiatives like the Swachh Bharat Mission. The chances of health risks increase with poor hygiene and compromised dignity, affecting safety in the study area.

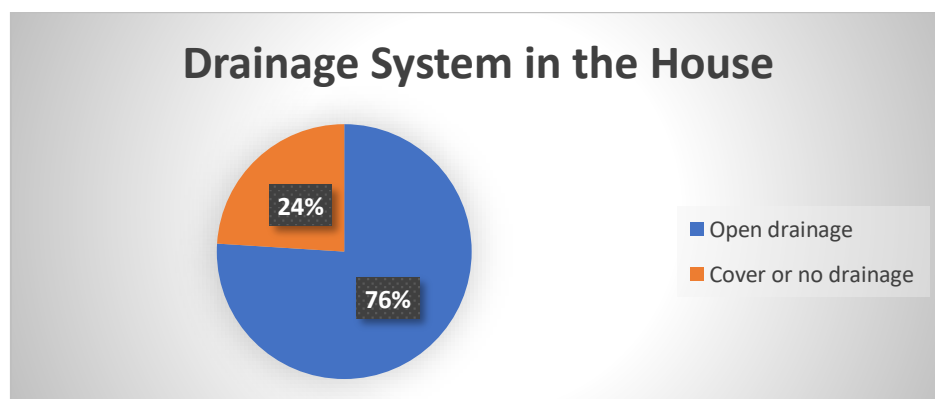


Source: Primary Data

Table 7. Drainage system in the house

Drainage system	Frequency
Open drainage	38 (76%)
Cover or no drainage	12 (24%)
Total	50 (100%)

The study shows that 76% of the households reside in areas with open drainage, which is higher than the national rural average of 67.3% (NSS 69th Round, 2012). Open drains promote breeding among mosquitoes, flies, and other parasites. This increases the risk of water-borne and vector-borne diseases such as diarrhea, dengue, malaria, and chikungunya. Even households equipped with toilets remain at risk if drainage infrastructure is inadequate. Thus, there is a critical need for comprehensive sanitation for public health.



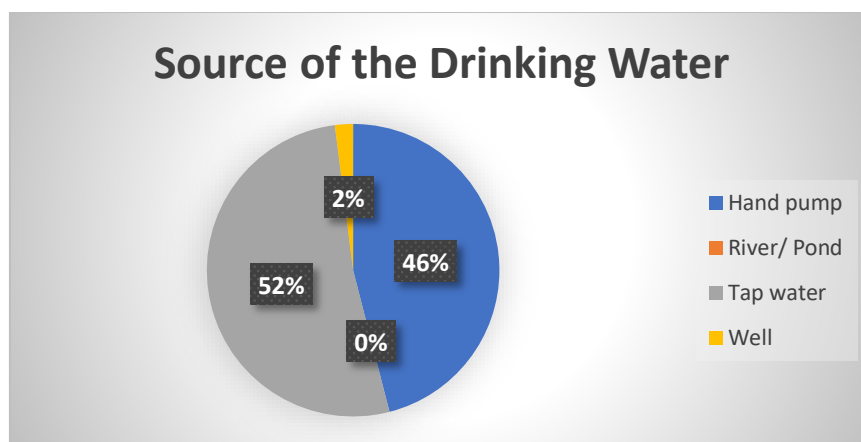
Source: Primary Data

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Table 8. Source of drinking water

Source of drinking water	Frequency
Hand pump	23 (46%)
River/ Pond	00 (0%)
Tap water	26 (52%)
Well	01 (2%)
Total	50 (100%)

The data suggest that the majority (52%) of respondents use tap water as their main source of drinking water. On the other hand, 46% rely on hand pumps, and only 2% on wells as their source for drinking water. Data from the 2011 Census showed that 43.5% and 33.5% of Indian households had access to tap water and hand pumps, respectively. Increased use of tap water reduces the risk of waterborne disease because contaminated groundwater may contain pathogens, making it unsafe for drinking water. The study indicates access to safe drinking water has improved, with over half of respondents using tap water; many still rely on other sources that are vulnerable to contamination. Hand-pumped water may get contaminated by sewage, open drainage, or chemicals. This may lead to diarrhea, typhoid, hepatitis, and other waterborne diseases.

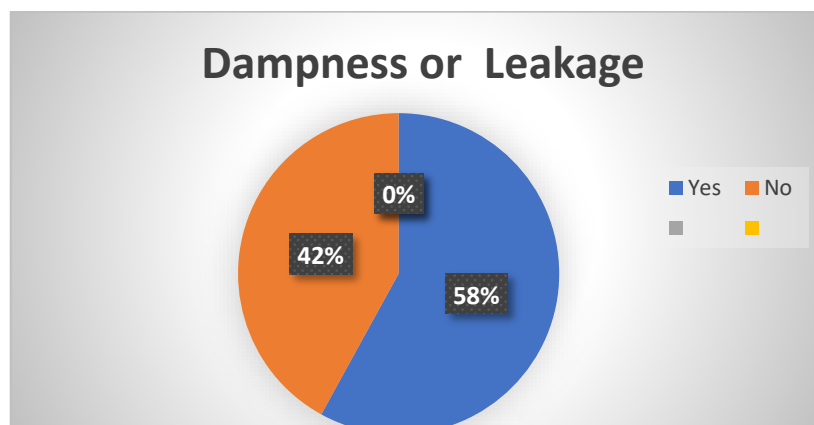


Source: Primary Data

9. Dampness or Leakage in the Living Room

Dampness or Leakage	Frequency
Yes	29 (58%)
No	21 (42%)
Total	50 (100%)

From the study, we derive that 58% of households reported dampness or leaks. Dampness was most common in kachcha and semi-pucca houses. Such houses are more prone to water seepage during rainy seasons. Dampness was also found in some pucca houses, mainly because of poor maintenance or outdated construction. Persistent dampness promotes mould, respiratory illnesses, allergies, and fungal infections.



Source: Primary Data

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Bourdieu's Theory of Capital is relevant as disadvantages reinforce each other through cycles of poor housing and health.

Communicable Diseases				
	Yes	No	Not aware of	Total
Has any family member suffered from any one of the following diseases during the last 12 months (Tuberculosis (TB)/ Flu/ Typhoid/ Malaria/ Dengue/ Skin Infection/ Fungal infection)	32	18	0	50
When a family member suffered from a disease, did the illness spread to other members of the family	26	6	0	32

Source: Primary Data

Mental and Psychological Health				
	Yes	No	Not aware of	Total
Do you feel stressed because of the housing conditions (like overcrowding, not having a separate kitchen, less sunlight, improper ventilation)	23	18	9	50
Do housing conditions affect your sleep	28	22	0	50
Does overcrowding cause frequent conflicts in the family	17	33	0	50

Source: Primary Data

EFFECTS OF POOR HOUSING:

Housing Conditions and Associated Health Outcomes among Dalit Households

Housing Condition	Extent of Deprivation	Health Pathway	Likely Health Outcome	Evidence from the Study
Kachcha/Semi-Pucca Housing	88%	Exposure to moisture, leakage, and poor insulation	Respiratory illness, fungal infection	36% respiratory illness, 8% fungal infection
No Separate Kitchen	84%	Indoor smoke exposure during cooking	Eye irritation, cough, and breathing difficulty	14 reported eye irritation, 22 reported cough
Poor Ventilation	86%	Indoor air pollution accumulation	Respiratory illness, asthma, breathing difficulty	18 breathing difficulty, 6 asthma/bronchitis
Poor Sunlight	78%	Dampness, poor indoor environment	Mental stress, respiratory vulnerability	23 stress due to housing conditions
Open Defecation	22%	Environmental contamination	Communicable diseases	30% communicable disease
Open/No Drainage	80%	Mosquito breeding, stagnant wastewater	Communicable and vector-borne diseases	32 households reported infectious diseases
Unsafe Water Source (Hand-pump/Well)	70%	Water contamination risk	Diarrhea and communicable diseases	30% communicable disease
Dampness/Leakage	58%	Mould growth and a humid environment	Respiratory illness, fungal infection	36% respiratory illness, 8% fungal infection

Many households reported communicable diseases, stress, poor sleep, and family conflicts. Poor housing drives both physical illness and psychological distress, with crowding, dampness, and insecurity due to lack of privacy contributing to multiple dimensions of health issues.

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Housing is a key social determinant of health that influences exposure to environmental risks, access to basic amenities, and daily well-being. In Othgi Tarhar village in Prayagraj, findings indicate that housing conditions affect both physical and mental health among Dalit households. Poor housing in this village is not just a sign of poverty but a structural issue based on caste-based exclusion and uneven implementation of government programs. Health outcomes among Dalit families are closely linked to their living conditions.

The survey results show a considerable housing deprivation among the respondents. Approximately two-thirds (66%) of households lived in kachcha or semi-pucca houses, while inadequate ventilation (76%), limited sunlight (72%), open drainage (76%), dampness or leakage (58%), and the absence of a separate kitchen (46%) were common characteristics of the residential environment. Even when 96% of respondents owned their houses, this alone did not guarantee healthy living conditions. This finding demonstrates that inadequate infrastructure cannot protect health without good environmental conditions.

The effects of poor housing conditions are visible in the communicable diseases reported by respondents. The majority (64%) of households reported that at least one family member had experienced tuberculosis, typhoid, malaria, skin infections, dengue, influenza, or fungal infections during the previous year. In addition, 81.3% of affected households reported that communicable diseases spread to other family members during specific seasons. This indicates that inadequate facilities promote disease transmission and that multiple social factors collectively interact to create cumulative health risks.

Breathing problems are linked to poor housing quality. Inadequate ventilation, dampness, and dependence on biomass as fuel lead to prolonged exposure to indoor air pollution, increasing the risk of cough, breathing issues like asthma, and other respiratory illnesses. Damp indoor environments also promote mould growth, which has been widely associated with respiratory infections and allergic diseases. Thus, housing quality directly influences households' health conditions.

The study further demonstrates that inadequate housing has important psychological and social consequences. Nearly half of the respondents (46%) reported experiencing stress because of poor housing conditions, 56% stated that housing problems disrupted their sleep, and 34% reported frequent family conflicts resulting from overcrowding. These findings indicate that housing affects well-being beyond physical illness. Overcrowding reduces privacy, increases interpersonal tensions, and creates chronic psychological stress, while poor ventilation, excessive heat, and inadequate living space contribute to sleep disturbances. Mental health should therefore be considered an important dimension of housing inequality, particularly among socially disadvantaged communities.

The findings are in sync with previous national research. In comparison with the Uttar Pradesh National Family Health Survey (NFHS-5, 2019–21) report, the study area had a lower proportion of pucca houses. This indicates that poor housing conditions remain critical among historically marginalised communities. Such associations also exist between poor housing quality, overcrowding, respiratory illness, and mental stress, as reported in the WHO Housing and Health Guidelines (2018) and by Evans, Wells, and Moch (2003). Marmot (2005) further argues that health inequalities are a result of unequal living conditions and not just individual behaviour or biological factors. The study contributes to local evidence by supporting broader national research on housing and health.

Housing quality, sanitation, drainage, etc., interact to influence disease occurrence and opportunities for a healthy and fuller life. This cluster of inadequate housing conditions found through the study illustrates that multiple factors together lead to poorer health outcomes among Dalit households.

The findings also echo Max Weber's concept of life chances. The theory argues that an individual's social position is determined by access to resources necessary for a better life. Dalits find themselves on the lower rungs of the caste hierarchy. As a result, these households are more prone to experience reduced life chances due to fewer opportunities. Thus, poor housing conditions become a tool through which social inequalities are translated into unequal health outcomes.

Similarly, Pierre Bourdieu's Theory of Capital is supported by the findings that limited economic capital restricts households' ability to improve housing quality, sanitation, drainage, and clean cooking facilities. Limited cultural capital prevents awareness of healthy housing practices and disease prevention, reproducing housing disadvantage across generations.

The findings also argue that housing quality and prevalence of diseases among Dalit households are not coincidental but an outcome of inequalities in the distribution of resources. Dr. B. R. Ambedkar's analysis of caste argues that spatial concentration of Dalit settlements in poorly serviced areas continues to reproduce health disparities.

The gender dimension of housing-related health issues is also evident from the study. Women spend more time at home than other household members. This can be due to personal and societal obligations, like safety and security, domestic responsibilities, cooking, childcare, and caregiving, which lead them to greater exposure to indoor air pollution, dampness, inadequate sanitation, and overcrowded living conditions. These conditions expose women to health problems like respiratory illnesses, fatigue, and stress, thereby affecting their overall well-being. Improving housing conditions, therefore, plays a crucial role in promoting gender equity in health.

The findings have important policy implications that require interventions extending beyond medical care to address the social conditions that produce illness. Policies need to focus on strengthening initiatives such as Pradhan Mantri Awaas Yojana (Gramin) to improve housing quality and ventilation, Jal Jeevan Mission to expand access to safe drinking water, and Swachh Bharat

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Mission to enhance drainage and sanitation facilities. Integrating these initiatives with the National Health Mission could reduce housing-related health risks.

LIMITATIONS OF THE STUDY:

This study has certain limitations, such as a small sample of 50 Dalit households from a single village, which limits its generalisability. Nutrition, lifestyle, and healthcare access are other key determinants of health that were not explored in depth by the researcher. The study used only quantitative methods, which means lived and subjective experiences of the respondents are underrepresented. Despite these constraints, the study highlights the impact of housing infrastructure on Dalit health.

CONCLUSION:

This paper shows that housing plays an important role in the health of Dalit households in rural Prayagraj. Although many own their homes, many continue to live in semi-pucca or kachcha houses with poor ventilation, little sunlight, bad drainage, dampness, and poor sanitation. Inadequate housing makes living conditions unhealthy and difficult and raises the occurrence of diseases like respiratory problems, fungal infections, and mental distress. The study also identifies conditions such as overcrowding and lack of privacy as reasons amplifying stress, trouble sleeping, and family conflicts, which are a result of inadequate housing that affects both physical and mental health. The study is based on a small sample size from a single village, but it provides insights into the relationship between housing conditions and health outcomes among Dalit households in eastern Uttar Pradesh.

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