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Pedaling for Survival: Occupational Health Vulnerabilities and Healthcare Barriers among Rickshaw Pullers in Peri-Urban Bangladesh

Anika Rahman*
School of Social Sciences, Humanities, and Languages
Bangladesh Open University, Gazipur-1705, Bangladesh.
ORCID ID: https://orcid.org/0009-0008-3479-3869

Abstract

Rickshaw pullers are an integral part of the informal labor force in the transportation system of Bangladesh, yet they remain marginalized and vulnerable to occupational and environmental risks. Despite their indispensable contribution, research on pullers' occupational health hazards, treatment-seeking behavior and healthcare access has mainly focused on urban and rural settings, while peri-urban areas remain overlooked. This exploratory quantitative study examined health vulnerabilities and healthcare barriers among 30 rickshaw pullers in Tetuljhora Union, Savar, Bangladesh, through descriptive survey data analyzed via structural violence, social determinants of health, and social exclusion frameworks. Given the use of convenience sampling, the findings of the research were interpreted as indicative of patterns within the study area rather than representative of all rickshaw pullers in Bangladesh. Findings showed frequent self-reports of chest discomfort, musculoskeletal pain, and respiratory issues alongside occupational stress and poor living conditions. While pullers perceived doctors as the best providers, most depended on informal providers due to financial hardship, limited literacy, and time constraints. The study critiques institutional neglect and calls for inclusive reforms such as mobile clinics, subsidized diagnostics, and health awareness programs to improve informal workers' well-being.

Keywords: *informal labor, occupational risk, health-seeking behavior, structural inequality, peripheral urban area.*

Introduction

Rickshaws are among the most significant modes of transportation in urban areas in Bangladesh. Despite the acknowledgement of their huge contribution to urban mobility and economic activity, rickshaw pullers constitute an undervalued group of informal workers. Moreover, they suffer silently due to the occupational hazards like prolonged pedaling and emissions from vehicles, and the vulnerabilities are intensified by intense heat and dehydration (Mahabub et al., 2024; Topu et al., 2025). As a result, they suffer from different types of acute and chronic diseases, including respiratory problems and musculoskeletal disorders (Lal et al., 2022; Mahabub et al., 2024). Unstable earnings lead them to live in crowded slums, marked by poor sanitation and polluted water—circumstances that quietly undermine health (Mashyat, 2026; Sultana, 2024). However, despite these risk factors, pullers are largely invisible in the public health system in Bangladesh (Das et al., 2026).

*Corresponding author: Anika Rahman. E-mail: anika.rahman@bou.ac.bd
Journal homepage: https://jssh.bou.ac.bd

While several sociological and health studies on rickshaw pullers have been conducted in core urban areas like Dhaka or rural peripheries like Tangail, none have explored the industrial peri-urban area like Savar, where migration, industrial pollution, and the informal labor economy collide. Most of the research in Bangladesh and India reveals mainly occupational strains, types of health issues, environmental factors, and socioeconomic vulnerabilities of the pullers (Begum & Sen, 2004; Islam et al., 2016; Lal et al., 2022; Roy et al., 2024); whereas, the connection between occupational hazards, healthcare-seeking behavior, and challenges to getting formal healthcare remains an underexplored area. Therefore, the spatial marginalization and structural neglect that may produce distinct health and access challenges for the pullers in a less-studied peri-urban context like Savar need to be investigated.

Based on the Structural Violence, Social Determinants of Health, and Social Exclusion perspectives, this study seeks to explore the health problems and challenges in getting health services and their connection with structural inequality and exclusion. Therefore, this research addresses the following questions:

(1) What are the most prevalent health issues among rickshaw pullers in Savar, Bangladesh?
(2) Where do rickshaw pullers in Savar seek medical care for their health conditions?
(3) What are the main barriers to accessing healthcare for rickshaw pullers in Savar?

By providing answers to these questions and establishing a link between the macro-level structural dynamics that influence informal workers' health experiences and their micro-level experiences, the study advances the field of health and labor sociology. The implications of this study not only add to academia, but also extend to the policy level. As Bangladesh works towards reducing inequalities (SDG 10) and achieving health equity (SDG 3), policies must be inclusive of the realities of pullers. This exploratory study sheds light on the day-to-day realities of health inequality among informal workers, providing modest yet meaningful evidence for a more inclusive policy debate among researchers, policymakers, and urban planners.

Literature Review

This section is theoretically grounded and empirically informed to investigate the interconnecting challenges of occupational health, access to healthcare, health seeking behavior and socioeconomic marginalization of rickshaw pullers in Bangladesh. These aspects are examined through the critical lens of three connected sociological perspectives: theory of Structural Violence, Social Determinants of Health and Social Exclusion. A theoretical framework is developed at the end of this section to provide a multifaceted analysis of the ways socioeconomic aspects and systematic discrimination lead to the poor health conditions and obstacles to accessing healthcare among rickshaw pullers.

Working Environment and Health conditions

Although rickshaw pulling is a vital part of transportation in urban areas, it is one of the most vigorous and health deteriorating forms of informal labor in South Asia. Recent studies revealed occupational hazards of pulling rickshaw where pullers reported lower back pain due to heavy lifting, and respiratory issues due to exposure to emissions from the vehicles (Mahabub et al., 2024; Topu et al., 2025). It is reported that rickshaw pullers also suffer during summer season due to extreme heat that causes excessive sweating, dehydration, weakness, dizziness, heat rashes and elevated heart rates. Moreover, 62% of rickshaw pullers do not consume adequate water daily and 93% lack rest facilities that further deteriorate their health conditions (Topu et al., 2025).

Due to income insecurity, most of the rickshaw pullers have limited housing options and therefore are compelled to live in a hazardous environment that heightens the vulnerability to different diseases. Data from Dhaka and Ranchi, India, indicate similar sanitation and housing vulnerabilities among the pullers (Kumar et al., 2016; Mashyat, 2026). Mashyat (2026) discovered that 85% of surveyed pullers in Dhaka lived in slums and 31% used kacha latrines, while Kumar et al. (2016) revealed unhealthy living conditions and poor toilet facilities, with exposure to polluted water sources, among rickshaw pullers in Ranchi. Moreover, Sultana (2024) and Islam et al. (2016) documented high levels of malnutrition and skin diseases among rickshaw pullers in Dhaka and Tangail respectively, linking these problems to poor sanitation and overcrowded housing. These findings reveal that hazardous working conditions, long working hours, environmental pollution, and poor housing conditions have serious consequences for the health of rickshaw pullers. From a structural standpoint, these vulnerabilities may be intensified by bureaucratic inefficiencies and institutional neglect that limit their access to public healthcare services.

The concept of structural violence explains how institutional neglect and structural inequalities produce suffering and affect the wellbeing and health of marginalized peoples, rather than by individual choices (Farmer, 2004). From this viewpoint, embedded neglect in public health provision and labor regulation is reflected in the deteriorating health conditions of rickshaw pullers. Therefore, unstable income, lack of labor safety and access to healthcare are not incidental but predictable consequences of structural inequality. Rickshaw pullers' dependence on daily income restrains their ability to get timely treatment, or seek preventive health measures, reflecting how economic instability deepens health vulnerabilities (Roy et al., 2024). In the context of rickshaw pullers, structural violence is manifested through lasting poverty, insufficient housing, hazardous working conditions, and inaccessible or inadequate healthcare facilities, which collectively translate social disadvantage into embodied illness and diminished quality of life.

Patterns of Healthcare Seeking behavior and obstacles

Health outcomes are determined not only by biological but also by the social and economic conditions such as education, income, nutrition, healthcare and housing. In Social Determinants of health framework, Marmot (2005) discussed that health inequalities are a result of unequal distribution and accessibility of resources in a society. Evidence supports the claim that lack of education, improper sanitation, and poor nutrition among the pullers lead to different health conditions such as respiratory diseases, hypertension, and low BMI (Lal et al., 2022; Mashyat, 2026). Pullers also encounter structural barriers to accessing formal healthcare that compel them to rely on the informal sector (Rahman et al., 2022).

In addition to the structural barriers, rickshaw pullers' perceptions of health, which are closely tied to their lack of education and daily struggles, also lead them to non-standard healthcare (Das et al., 2026). Studies revealed that rickshaw pullers see health as having enough food to survive and strength to keep pulling rickshaws to provide for their families rather than to be free from all diseases (Rahman et al., 2022; Sultana, 2024). Even if they have fever, back pain, or extreme tiredness, they often consider these as natural consequences of their laborious job (Das et al., 2026; Omi et al., 2025). In contrast, a study in India revealed that some rickshaw pullers value holistic aspects of health such as being free of disease and psychological well-being (Kumar et al., 2016). Therefore, although conceptions of health vary, the majority of the pullers connect health largely with survival and to be able to work.

A narrow understanding of health leads rickshaw pullers to obtain treatment when they become seriously ill that threatens their ability to work (Lal et al., 2022; Rahman et al., 2022). Moreover,

limited daily income exacerbates this situation by forcing pullers to seek immediate low cost care for survival rather than long term treatment (Kumar et al., 2016; Sultana, 2024). A study of pullers in Delhi, India, reported that 54.8% of pullers in Delhi never took medical advice, and 17.4% consulted quacks (Lal et al., 2022). Increasing dependence on informal providers is a consequence of financial and institutional barriers, such as costly treatment and long waiting times, which restrict pullers' access to formal healthcare (Das et al., 2026; Rahman et al., 2022). Fear of ill-treatment in public hospitals, superstitions, and mistrust in modern medical services prevented rural rickshaw pullers from accessing formal services (Rahman et al., 2022). A similar trend is evident in urban areas, where Begum and Sen (2004) found that less than 6% of acute illness episodes were treated in the government hospitals, while many pullers depended on drugstores, inexperienced local private practitioners and traditional healers. These behaviors convey the idea that treatment choices are constrained by poverty, social inequality and lack of state welfare initiatives.

Socioeconomic Exclusion and Structural Marginalization

The rickshaw pullers in Bangladesh are in a marginalized position that limits their access to standard healthcare to a great extent, and reflects wider social, economic and institutional exclusions. Although rickshaw pullers make a visible contribution to the transport sector in Bangladesh, they remain largely absent in the state policy formulation and are deprived of labor protections (Sultana, 2024). Scholars claimed that this invisibility in policy level participation is strategic to sustain a flexible and low cost labor force (Das et al., 2026). This economic marginalization is connected with health vulnerability because the pullers' ability to stand for their rights is constrained by the low wages, frequent relocations, and weakened social capital, which continues the vicious cycles of poverty and poor health (Begum & Sen, 2004). These structural dynamics are closely aligned with the Social Exclusion Theory by Sen (2000). He posits that certain individuals and groups are systematically excluded from resources, access to institutions and services, and recognition that are necessary for full participation in society (Sen, 2000).

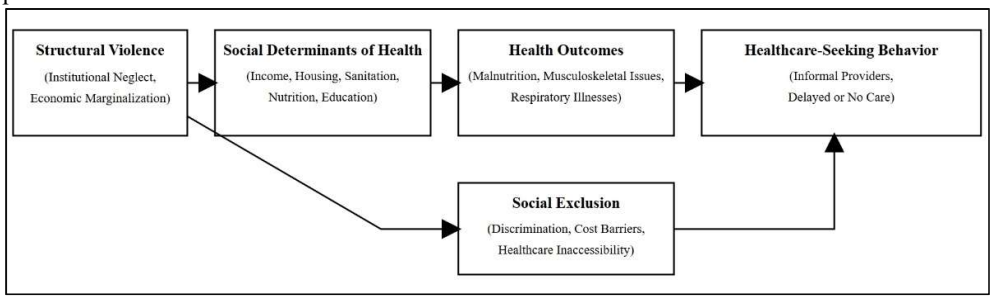
The exclusion of rickshaw pullers is the result of institutional policies, social norms, and economic discrimination that collectively deny them the right to equal access to healthcare services. This exclusion is evident in their limited access to proper healthcare. High costs in private hospitals, bureaucratic inefficiencies, dominance of the brokers and prolonged time of waiting in the public hospitals, and discrimination by the service providers due to the socioeconomic status of the pullers, represent exclusion from equitable healthcare system (Das et al., 2026; Kumar et al., 2016). The failure to properly integrate this marginalized group into the public healthcare facilities reflects wider institutional malfunctions, where exclusion operates at multiple levels (Rahman et al., 2022).

Conceptual Framework

The three theories provide a contemporary explanation of the realities of the rickshaw pullers. Structural Violence theory (Farmer, 2004; Galtung, 1969) highlights the macro-level inequalities underlying policy and institutional neglect—for instance, the absence of labor rights or affordable healthcare—that harm pullers in ways that are almost invisible because they are deeply rooted in the social structure. The Social Determinants of Health framework emphasizes that health outcomes are shaped by a wide range of socioeconomic, psychosocial, and environmental factors, encompassing everything from education to health perceptions (Marmot & Wilkinson, 2005). Lack of literacy leading to health misconceptions, combined with poor living conditions, environmental exposures, and limited healthcare access due to poverty, illustrates the SDH theory's relevance for the health of urban rickshaw pullers in Bangladesh (Rahman et al., 2022). Social Exclusion theory analyzes how these marginalized individuals are excluded from public health resources and denied

participation in policy discussions (Sen, 2000). As a result, they remain isolated in society and are deprived of basic rights.

Figure 1 Conceptual framework of health vulnerabilities and healthcare access among rickshaw pullers



Note. The framework combines social determinants of health, structural violence, and social exclusion to show how economic marginalization can lead to marginalized health outcomes and obstacles when seeking medical attention. The arrows indicate the direction of the influence.

Based on the theories, a conceptual framework is developed that has guided the analytical structure of the study. These theories intersect powerfully in the case of health seeking behavior and health outcomes of rickshaw pullers. Structural violence clarifies that institutional neglect is embedded in health governance and labor regulation; the Social Determinants of Health framework explains how unequal distribution of income, housing, sanitation, and education translates that neglect into measurable health inequalities; and Social Exclusion theory explores how marginalized pullers are systematically denied access to decision-making at policy levels and formal healthcare. Overall, institutional neglect (structural violence) limits equitable access (exclusion) through the unequal allocation of material and social resources (health determinants), producing a cyclical pattern in which work insecurity becomes health vulnerability among rickshaw pullers

Methodology

Research Design

An exploratory quantitative methodology was selected for this study because the research questions aimed to identify the prevalence of diseases, examine patterns of seeking treatment, and explore barriers to accessing healthcare among rickshaw pullers—all of which are measurable (Bryman, 2016; Creswell, 2014). Given the absence of baseline data on health conditions and healthcare access among rickshaw pullers in peri-urban Savar, an exploratory quantitative design was particularly suitable as it facilitated the generation of initial numeric prevalence measures and patterns in a hard-to-reach, low-literacy population. The overall quantifiable insights derived from a quantitative design made it appropriate as the first step in systematically documenting the health problems and treatment barriers among the rickshaw pullers in Savar.

Method and Instrument

To collect data from rickshaw pullers in Tetuljhora Union, Savar, Bangladesh, a survey method was used in the study. The survey was selected because of its efficacy in collecting standardized data from the respondents within a short timeframe despite their busy schedules. An interviewer-administered questionnaire was employed as an instrument to ensure comprehension of the

questions and to obtain reliable responses, given the fact that the majority of the rickshaw pullers have little or no literacy. There were four sections in the questionnaire: (1) demographic information of the respondents, (2) common health problems of the pullers, (3) practices for getting treatment for illness, and (4) barriers to getting healthcare. There were 14 closed-ended questions in the instrument, designed with reference to occupational health and healthcare-seeking variables identified by Mahabub et al. (2024) and Rahman et al. (2022).

Study Setting

As most of the studies on rickshaw pullers' health are focused on city areas in Bangladesh, a peri-urban area like Savar was chosen purposively to fill a critical gap in the existing literature. Especially Tetuljhora Union in Savar was selected because it is a busy industrial and commercial center near Dhaka city where numerous local and migrant rickshaw pullers work every day. Industrial pollution, informal settlements, poor sanitation, and lack of pure drinking water increase the occupational and environmental health risks of the rickshaw pullers in this area. Moreover, a lack of standard and affordable healthcare facilities in that peri-urban area can further aggravate the health problems. For all the factors mentioned above, Tetuljhora is a suitable place that can offer a new viewpoint to study health problems and barriers to treatment among the rickshaw pullers. In the study site, three rickshaw stands were chosen purposively including Savar Bazar Rickshaw Stand, Tetuljhora Bus Stand, and Jahangirnagar University Gate Stand. Those are the busy spots in Tetuljhora union where many pullers from different neighborhoods gather to pick passengers. This not only helped include respondents from varied backgrounds, but also kept data collection practical within the available time and resources (Creswell & Creswell, 2018).

Selection of Respondents

Respondents were selected using convenience sampling from the study site. This non-probability sampling was chosen for its efficiency and practical flexibility in reaching respondents who are difficult to access due to their demanding schedules, time constraints, and limited resources to collect data (Creswell & Creswell, 2018). In such situations, probability sampling is not feasible due to the absence of an available sampling frame and the transient nature of the respondents (Neuman, 2014). A total of 30 pullers were selected in this exploratory study based on two inclusion criteria: having at least 5 years of pulling experience and aged approximately 30 years or older. These criteria were set to ensure that the respondents had enough experience in pulling to explore the long term occupational vulnerabilities that impact health.

The aim of this study was not to establish the generalizability of the findings, but rather to provide sufficient data for descriptive statistical analysis of common health issues, treatment practices, and barriers to healthcare within the study sites (Bryman, 2016). A total of 30 respondents were selected pragmatically because the study was exploratory, the pullers were difficult to access, and time and financial resources were limited. Ten respondents were recruited from each study site. This approach facilitated the researcher to select pullers who met the criteria for inclusion and were willing to participate in the study.

Reliability and Validity

Content validity was supported in this study by constructing the questionnaire from two prior occupational-health studies by Mahabub et al. (2024) and Rahman et al. (2022). The questions were directly linked to the objectives of the study. In addition, two academic experts reviewed the instrument to ensure content coverage and clarity. A brief pilot test with five pullers was conducted

to assess the clarity of the wording, with explanation of the ambiguous words by the interviewer. The closed-ended format was used to reduce response variability and maintain consistency. Moreover, the researcher administered the questions in a standardized manner to ensure consistency and minimize bias that supports reliability.

Ethical Issues

This study followed the ethical guidelines outlined in the American Sociological Association's (2018) Code of Ethics and the Ethical Guidelines for Conducting Research Studies Involving Human Subjects issued by the Bangladesh Medical Research Council (BMRC, n.d.). Due to the absence of a formal review board for ethical clearance, the researcher carefully followed the ethical guidelines of BMRC and the ASA. The researcher informed the purpose of the study, procedure of data collection in simple language to the rickshaw pullers and obtained voluntary informed consent from all respondents. Most respondents gave verbal or provided a thumbprint, while a few literate ones provided written consent. The researcher explained to the pullers that they could withdraw from the interview at any time during the interview. To maintain anonymity and confidentiality, no personal information was collected. All data were coded properly, stored securely and used only for academic purposes.

Data Collection Procedure and Data Analysis

Data were collected from 23-25 March 2025 from the three selected study sites. The researcher introduced herself, told the purpose of the research and built rapport with the rickshaw pullers. After getting the consent, each interview took approximately 15-20 minutes for each interview session. The researcher remained cautious not to disrupt the participants' working hours or to cause any discomfort during interviews. Questionnaires were checked immediately after collecting the data to check accuracy and missing information. Then data were coded and analyzed with SPSS version 26. To summarize the results, descriptive statistics such as frequency distributions and percentages were used.

Results

Demographic Characteristics of Respondents

The table presents data on the demographic profiles of 30 rickshaw pullers who are predominantly young to middle aged (estimated mean age 37.2 years). 73.3% of the respondents are between the ages of 30-39. The majority of the pullers were illiterate (70%) while only 30% had primary education, revealing limited formal schooling that can likely impact the level of awareness on health and treatment seeking behavior. 73.3% of the respondents were married and had an average family size of five. 56.7% of the pullers had a daily income of BDT 600-999. Overall, the demographic features portray a socio-economically disadvantaged group marked by low income, lack of education and high family obligation, consistent with profiles of urban rickshaw pullers in Bangladesh.

Table 1. Demographic information of the respondents (N=30)

		Percentage (%)
Age	30-34 Years	36.7
	35-39 Years	36.7
	40-44 Years	16.7
	45-49 Years	6.7
	50+ Years	3.3
Literacy status	Illiterate	70.0
	Primary Education	30.0
Marital status	Unmarried	26.7
	Married	73.3
Daily income (BDT)	300-599	16.7
	600-999	56.7
	1000+	26.7
Family size	3-4	33.3
	5-6	60.0
	7-8	6.7

Note. Data were collected from rickshaw pullers in Tetuljhora Union, Savar, Bangladesh, in March 2025. BDT = Bangladeshi Taka.

Prevalence of Illness and Associated Living Conditions

Table 2. Health, water, sanitation, and housing conditions among rickshaw pullers (N = 30)

Variables	Category	Frequency	Percentage (%)
Illness in the last 1 year	Yes	29	96.7
	No	1	3.3
Self-reported health problems (Multiple response)	Coughs & Colds	20	66.7
	Joint pain	18	60.0
	Back pain	21	70.0
	Chest discomfort	27	90.0
	Fever	9	30.0
	High Blood Pressure	3	10.0
Drinking Water	Tube well	10	33.3
	Water by WASA	17	56.7
	Boiled water	3	10.0
Sanitary facilities	Kacha	8	26.7
	Pakka	22	73.3
Housing Facility	a) Informal settlement (e.g., slum with shared amenities)	17	56.7
	b) Rented single room (with basic utilities like water or electricity)	5	16.7
	c) Shared rented accommodation (with multiple occupants, limited facilities)	3	10.0
	d) Employer-provided housing (e.g., garage or workshop space that is informal space to live)	5	16.7

Note. Data were collected in Tetuljhora Union, Savar, Bangladesh, in March 2025. Multiple responses were allowed for type of illness. Percentages may not sum to 100 due to rounding.

It is evident from the findings (Table 2) that 96.7% of rickshaw pullers reported illness during the last one year. The most commonly reported illnesses were chest discomfort (90%), back pain (70%), coughs and colds (66.7%), and joint pain (60%). A small portion of pullers lived in shared (10%) or single-room (16.7%) accommodation; more than half of them (56.7%) resided in slums. Although the majority (73%) used pakka sanitation, 26.7% of respondents used kacha sanitation. Most (56.7%) were dependent on WASA-supplied piped water, while 33.3% relied on tube wells. These trends show socioeconomic vulnerabilities among the rickshaw pullers where poor earnings and living conditions may lead to health problems. These findings are largely consistent with earlier studies of rickshaw pullers in Bangladesh, which also reported chest discomfort, joint pain, back pain, and respiratory problems along with physically demanding work and adverse living conditions (Islam et al., 2016; Mashyat, 2026).

Table 2a. Cross-tabulation: Housing type and frequency of illnesses among rickshaw pullers

Type of Housing	1–2 Illnesses N (%)	3+ Illnesses N (%)	Total N
Informal settlement	3 (17.6)	14 (82.4)	17
Rented room (Shared and single room)	5 (62.5)	3 (37.5)	8
Employer-provided housing	1 (20.0)	4 (80.0)	5
Total	**9 (30.0)**	**21 (70.0)**	**30**

Note. Percentages are within housing type.

Table 2a shows that 82.4% of residents of informal settlements (N = 17) and 80.0% of residents of employer-provided spaces (N = 5) reported three or more illnesses, compared with 37.5% of those renting shared or single rooms in the last year. The poor living conditions in informal settlements, such as insufficient ventilation, overcrowding, and poor sanitation, may increase health vulnerability (Mashyat, 2026). However, 62.5% of occupants of rented single rooms (N = 5) or shared rooms (N = 3) reported one or two illnesses. The findings align with prior studies that reported substandard housing conditions alongside increased health problems among rickshaw pullers (Islam et al., 2016; Mashyat, 2026).

Healthcare-Seeking Patterns and Provider Preferences

Table 3 shows that the highest proportion of the pullers (50.0%) sought treatment from compounders of medicine stores and the lowest proportions (10.0%) consulted huzurs and MBBS doctors located at local medicine stores. Almost one-third (30.0%) of the respondents got care from government hospitals. More than half of the pullers (60.0%) did not undergo lab tests, although 96.7% (Table 2) had suffered from illness during the last year. Only 23.3% reported undertaking laboratory tests, while 16.7% did so only when they experienced serious illnesses. Among the pullers who underwent laboratory tests, 91.7% did so in government hospitals, indicating reliance on public facilities due to their lower cost. While the majority (76.7%) perceived doctors as the best treatment providers, only 40.0% accessed them. Due to financial hardship and limited healthcare access, there is a gap between practice and preferences among the rickshaw pullers (Rahman et al., 2022).

Table 3. Information regarding treatment

Variables	Category	Frequency	Percentage (%)
Type of healthcare provider	Government hospital	9	30.0
	MBBS doctors located at local medicine stores	3	10.0
	Huzur	3	10.0
	Compounders from medicine stores	15	50.0
Lab tests	Yes	7	23.3
	No	18	60.0
	Only when seriously ill	5	16.7
Place of lab tests	Government hospitals	11	91.7
	Private diagnostic centers	1	8.3
Perception regarding best provider	Doctors	23	76.7
	Huzur	3	10.0
	Compounders	4	13.3

Note. Percentages for type of healthcare provider, practice of laboratory-testing and perceived best provider are based on the total sample (N = 30). Percentages for place of testing are based only on the 12 respondents who underwent laboratory tests either generally or when seriously ill.

Table 3a. Cross-tabulation: Literacy status and healthcare provider (N = 30)

Education Background	Compounder (%)	Government Hospital (%)	Local MBBS Doctor (%)	Huzur (%)
No education (n = 21)	61.9	14.3	9.5	14.3
Primary Education (Class 1-5) (n = 9)	22.2	66.7	11.1	0.0

Note. *Percentages are calculated within each literacy group.*

The cross-tabulation shows the type of healthcare provider by the level of education of the rickshaw pullers. Pullers who had no formal education (70%) depended mainly on compounders of medicine stores (61.9%), while 14.3% used government hospitals and 9.5% consulted the local MBBS doctors for treatment. In contrast, respondents with primary education sought treatment mainly from government hospitals (66.7%), followed by compounders (22.2%) and MBBS doctors (11.1%). Although nearly 14.3% of pullers with no education chose huzurs for healthcare, none of the primary-educated pullers visited huzurs. The findings are similar to a prior study showing higher use of informal care among pullers with no education and formal services among those with primary education (Rahman et al., 2022). The analysis shows that there are differences among rickshaw pullers in choosing a healthcare provider based on education.

Barriers to Accessing Formal Healthcare

Table 4 presents the challenges rickshaw pullers face in accessing formal healthcare. A significant number of the respondents (93.3%) mentioned high fees of private doctors and insufficient earnings for treatment as the major challenges. Moreover, 90% of respondents cited lack of free diagnostic tests in hospitals, indicating high price of lab tests. While 73.3% of them reported high cost of medicines, more than 80% of them reported that free medicines are unavailable at the government

hospitals. These findings reflect those of Kumar et al. (2016), who revealed a lack of public health provisions for these informal workers in India. Time was also an important barrier for the respondents. 70% of them mentioned long waiting time in government hospitals, while 56.7% cited a lack of time due to work pressure. Rahman et al. (2022) found similar financial and systemic barriers among the rural rickshaw pullers in Bangladesh that pushed them to seek healthcare from informal sources.

Table 4. Challenges to get treatment from formal healthcare (Multiple answers)

Challenges	Frequency	Percentage (%)
High fee of private doctor	28	93.3
Long waiting time in the government hospital	21	70.0
High medicine price	22	73.3
Not getting free medicine from govt. hospital	25	83.3
Lack of free diagnostic tests	27	90.0
Lack of money for treatment	28	93.3
Lack of time due to work demands	17	56.7

Note. Multiple responses were allowed. $N = 30$.

Discussion

Occupational Health and Vulnerability

The quantitative findings show complex intersections between health, work, and inequality. Interpreting these results through sociological theory suggests systemic rather than individual causes of vulnerability among pullers. As rickshaw pulling is a vital mode of transportation in urban areas of Bangladesh, pullers are subjected to extreme physical and environmental stress, which may contribute to various health issues. The findings show that most of the pullers reported three or more illnesses, among which chest discomfort, back pain, joint pain and cough and cold were the most prevalent. Mahabub et al. (2024) found that lower-back pain was associated with hours of pedaling, improper ergonomic posture and heavy lifting. These results are mostly consistent with Lal et al. (2022), who reported musculoskeletal and respiratory health problems among the pullers in India. In addition, Roy et al. (2024) found that long working hours amplify the occupational vulnerability of the pullers in Dhaka. Low wages further intensify this vulnerability by limiting their access to sufficient rest, food, and treatment. Based on the theory of structural violence, the presence of multiple health issues may be understood as an outcome of socioeconomic systems that deprive informal workers of proper health protection and safe working conditions (Farmer, 2004; Galtung, 1969).

Pullers in Dhaka and India also suffer from different respiratory issues similar to those reported among pullers in Tetuljhora union, Savar and may be related to polluted air, excessive heat and dehydration (Lal et al., 2022; Omi et al., 2025). As an industrial area, air pollution in Savar may pose a great hazard to informal workers, although this issue has not been fully explored yet. The living environment also complicates the health risks, as many pullers in the study area reside in overcrowded slums with contaminated water, and poor sanitation, which may increase the possibility of infectious diseases and malnutrition (Islam et al., 2016; Mashyat, 2026; Sultana, 2024). The burden of a higher rate of illness among the pullers in employer-provided and informal

housing indicates how occupational risks overlap with the unstable peri-urban living situations in Savar. Therefore, from the perspective of structural violence theory, the occupational health problems of the pullers can be analyzed not simply as medical conditions but as consequences of social stratification and embodied inequality.

Treatment-Seeking Behavior

The healthcare-seeking behavior of the pullers is influenced by a combination of three complex factors: perceptions of health, economic hardship and institutional mistrust (Omi et al., 2025; Rahman et al., 2022). Most of the pullers relied on the local compounders, followed by government hospitals, local MBBS doctors and religious healers. These findings are consistent with the study by Kumar et al. (2016), who revealed that pullers in Ranchi, India depended mainly on the informal caregivers because they were affordable and easily accessible. The pullers' preference to go to pharmacies rather than hospitals can be explained through the Social Determinants of Health framework by Marmot and Wilkinson (2005), which relates healthcare decisions to socio-economic factors such as time, income, and literacy.

In this research, respondents with a primary education mostly accessed government hospitals, whereas those with no formal education predominantly depended on compounders, reflecting how education can influence health awareness. In addition, the qualitative study by Rahman et al. (2022) found that lack of education also influences their perception of health as not being free from disease but being able to work and earn. Therefore, they may delay seeking formal care or undertaking laboratory tests until they become seriously ill. This may lead to delayed diagnosis and treatment (Das et al., 2026). Choosing government hospitals for visiting doctors or laboratory tests in this study indicates financial considerations.

Through the lens of structural violence theory, this reliance on informal care can be understood as a consequence of limited policy support and institutional capacity, which push informal workers towards informal care as a survival strategy (Galtung, 1969). These circumstances also reflect the relational isolation of pullers under social exclusion theory, while traditional or religious healers fill the gaps in the formal system (Silver, 1994). Studies on rickshaw pullers in urban Dhaka and rural areas in Bangladesh revealed similar informal preferences to health care due to limited access to modern health facilities (Das et al., 2026; Rahman et al., 2022). Although most respondents perceived doctors as better treatment providers, far fewer accessed formal care. This indicates a perception-practice gap that is rooted in institutional constraints. Therefore, the formal healthcare system in the peri-urban area such as Savar appears unable to properly serve the marginalized laborers. Illness further intensifies socioeconomic vulnerability by reducing the capability to work and earn, thereby perpetuating the cycle of inequality and injustice (Farmer, 2004).

Challenges to Formal Healthcare

The obstacles identified in the present study demonstrate how health systems reinforce socioeconomic hierarchies, where affordability and accessibility remain contingent on class position. High fees charged by private doctors, expensive medicines, lack of free diagnostic tests, and long waiting times in the government hospitals were identified by the respondents as the major barriers to receiving treatment from formal caregivers. Rickshaw pullers in urban Dhaka also reported facing financial hardship and time constraints (Das et al., 2026). A study in rural Bangladesh also reported that pullers highlighted long waiting times and financial hardship as obstacles (Rahman et al., 2022). In an industrial area like Savar, high passenger demand creates time constraints for pullers to visit government hospitals. In addition, high private doctor fees hinder

them from visiting private hospitals, where they may receive faster services. Expense was also found to be a deterrent to receiving formal healthcare in a narrative review (Omi et al., 2025).

These challenges demonstrate social exclusion as well as structural violence from a sociological perspective because the healthcare system functions in such ways that make it practically inaccessible to marginalized groups, thereby reproducing inequality (Farmer, 2004; Sen, 2000; Silver, 1994). This exclusion, in turn, challenges the assumption that public services are accessible to all. In the context of Savar, limited access to public healthcare, high cost of private doctors, and informal labor arrangements form a multilayered system of exclusion for pullers–economic, institutional, and spatial–that perpetuates a cycle of vulnerability. This mirrors Farmer's (2004) argument that individual factors such as education or income are not the sole reasons for marginalized people's inability to obtain formal healthcare. Rather, institutional structures and the absence of supportive conditions also create barriers to receiving proper care.

Conclusion

This study investigated the occupational health vulnerabilities, healthcare-seeking behavior, and barriers to treatment among 30 rickshaw pullers in Tetuljhora Union, Savar, Bangladesh, using an exploratory quantitative cross-sectional survey. The examination of the interrelationship between labor, health, and inequality revealed how economic, social, and structural factors converge to produce health vulnerabilities. The most prevalent illnesses—back and joint pain, chest discomfort, and cough and cold—may be related to pollution exposure, hazardous work conditions, and substandard living arrangements in slums and garages. Findings on healthcare-seeking behavior show heavy reliance on informal providers, particularly among respondents with little or no education. Despite their preference for formal medical care, financial constraints lead many pullers to depend on compounders at medicine stores. Moreover, the high cost of private consultations, lack of free diagnostic services and medicines, long waiting times in public hospitals, and time constraints due to workload further restrict their access to formal healthcare. Grounded in the frameworks of Structural Violence, Social Determinants of Health, and Social Exclusion, this study concludes that rickshaw pullers' health problems are shaped by social and institutional conditions, not only physiological factors, reinforcing the need for structural reforms in labor policy and public health systems.

To overcome these deeply rooted disparities, public health agencies, municipal authorities and NGOs can take practical measures. First, rickshaw pullers should be recognized as a vulnerable group of informal workers in public policy. Then, public hospitals and NGOs can establish mobile health clinics near the rickshaw stands to provide consultations and subsidized diagnostic tests. After that, Government–NGO partnerships can establish rest facilities and conduct health awareness campaigns on nutrition, hygiene, risks of untreated diseases, dehydration, and heat exposure. These programmes may encourage the pullers to seek healthcare on time and reduce dependence on informal caregivers. Finally, simple ergonomic improvements to rickshaws, such as well-adjusted seats, handlebars, and pedals, should be introduced by municipal authorities, manufacturers, and rickshaw owners. Future research on this issue should adopt mixed-method designs with larger samples. To identify contextual differences, comparative studies across rural, peri-urban, and urban settings are needed. Such evidence can inform future policies for ensuring equitable healthcare access to the informal workforce. Despite its small scale, this research links micro-level health problems with macro-level policy shortcomings and highlights the significance of the well-being of marginalized informal workers for inclusive development in Bangladesh.

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