



INDIAN JOURNAL OF
LEGAL REVIEW

VOLUME 5 AND ISSUE 4 OF 2025

INSTITUTE OF LEGAL EDUCATION



INDIAN JOURNAL OF LEGAL REVIEW

APIS – 3920 – 0001 | ISSN – 2583-2344

(Open Access Journal)

Journal's Home Page – <https://ijlr.iledu.in/>

Journal's Editorial Page – <https://ijlr.iledu.in/editorial-board/>

Volume 5 and Issue 4 of 2025 (Access Full Issue on – <https://ijlr.iledu.in/volume-5-and-issue-4-of-2025/>)

Publisher

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RISK ON THE ROAD: ANALYZING PHYSICAL AND MENTAL HEALTH HAZARDS FACED BY URBAN FOOD DELIVERY GIG WORKERS

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BEST CITATION – NITHYA R, RISK ON THE ROAD: ANALYZING PHYSICAL AND MENTAL HEALTH HAZARDS FACED BY URBAN FOOD DELIVERY GIG WORKERS, *INDIAN JOURNAL OF LEGAL REVIEW (IJLR)*, 5 (4) OF 2025, PG. 767-773, APIS – 3920 – 0001 & ISSN – 2583-2344.

ABSTRACT:

Food delivery gig workers in urban areas face unique physical and mental health challenges due to the nature of platform-based work and demanding city environments. This study explores daily risks such as accidents, musculoskeletal strain, and exposure to extreme weather, along with mental health issues like stress, job insecurity, and lack of social support. The key issue is the absence of legal protection, as gig workers are not recognized as formal employees and thus lack access to health insurance, paid leave, and compensation benefits. Drawing from secondary sources, including government and media reports, the research highlights how the gig economy's flexibility often comes at the cost of worker well-being. It calls for urgent policy intervention—legal recognition of gig workers, platform accountability, and comprehensive social security. By examining both the health risks and legal gaps, this paper advocates for inclusive reforms to ensure safe, fair, and dignified working conditions in the growing digital gig economy.

Keywords: Gig economy, Food delivery workers, Urban, Health concerns, and Labour rights

INTRODUCTION:

Gig workers include independent contractors, contract firm employers, online platform workers, on-demand workers, and temporary workers. Chapter I, Section 2(35) of the Code on Social Security, 2020 defines a gig worker as "a person who participates in a work arrangement and earns from such activities outside of a traditional employer-employee relationship." The definition is still ambiguous as to who exactly a gig worker is, however, it distinguishes the gig workers from normal employees and other non-employee classes of workers. Gig workers enter into formal agreements with on-demand companies to provide services to the company's clients. Many countries are still debating the classification of gig workers as the companies are classifying them as independent workers, while organized labor organizations have been pushing for them to be considered to be "employees", which would

legally require businesses to provide the full suite of employee benefits like overtime wages, paid sick leave, health care provided by the employer, the right to bargain, and unemployment insurance, among others. The reports of NITI Aayog (2022) show that the gig economy is booming as a result of rising urbanization, increasing demand for on-demand services, and the relative ease of entry into platform-based labour. The drive to participate in gig work is influenced by the absence of formal employment options along with promising immediate income. Additionally, the Covid-19 pandemic has also compelled businesses and organisations to reconsider the very nature of work. India stands to lose 135 million jobs because of the pandemic and this is likely to push the full-time workforce towards the gig workers. Furthermore, a lot of laid-off workers are concentrating on developing their abilities to take advantage of freelance work

opportunities and contribute to this growing economy.¹³²⁸

Exploitation in the food delivery sector primarily arises from the classification of workers as self-employed, which deprives them of fundamental employee benefits such as fair wages, insurance, and grievance mechanisms. Being paid per delivery forces them to work unreasonably long hours for low net income after covering personal expenses. Weak regulatory oversight, coupled with isolated working conditions and widespread account sharing, makes it difficult to enforce labor standards or ensure compliance. Although some platforms have introduced identity checks, significant regulation and consistent worker protections are still largely absent or poorly implemented.

REVIEW OF LITERATURE:

1. Sundararajan (2016) – The study highlights how the rise of online markets such as Uber, Swiggy, and Zomato has produced new, flexible job alternatives that appeal to people looking for schedule flexibility and independence. Gig work is now more accessible than ever before, which is facilitated by smartphones and algorithmic management, thereby allowing real-time matching of labor with customer demand.
2. Bokim Lee (2016) This study examines the link between emotional repression, psychological health, and presenteeism among South Korean service professionals, based on data from 15,669 workers in the 2011 Korean Working Conditions Survey. It finds that regularly repressing emotions is linked with higher rates of presenteeism and poorer mental health. Emphasizing the harmful effects of emotional labor, the study calls for actionable measures to support

service workers in handling emotional demands.

3. M.S. Hussain (2023) – The article explores the protests by the food delivery workers throughout the pandemic, with a particular emphasis on the transition to vital platforms. Though the platform's market position was improved by the pandemic, workers's wages were reduced, which sparked these strikes. Two strikes occurred in Hyderabad in June and September 2020, highlighting the motivation, tactics, and responses of platform companies. The paper also looks at the situational and structural elements that reduced the negotiating power of the workers.
4. Dr. Geetha (2024) – This article explores the impact of gig workers in Chennai with special reference to food delivery apps like Zomato, Swiggy, Faasos, Dunzo, and Domino. The study also analyses the job satisfaction of these workers attained through their working conditions. The sample comprises 100 food delivery gig workers employed by the above-mentioned platforms. This research lines with other studies in the region, such as the investigation into challenges faced by gig workers in India's online food delivery sector, which also highlights issues of precarious working conditions and income instability.
5. Aditya Kumar (2024): This article examines the difficulties faced by Indian gig workers, especially delivery and cab drivers, who often work long hours for low pay and lack job security. It highlights how incorrectly they have been classified as non-employees denies them legal protections, leading to financial hardship and discrimination. The article also discusses global initiatives to strengthen gig workers'

¹³²⁸ Dr. Geetha, A study on the Gig Workers in the Chennai City with special reference to food delivery workers, Journal of Emerging Technologies and Innovative Research, Vol 11, Issue 4, 2024

rights, including stronger labor laws and social security measures.

RESEARCH OBJECTIVES:

- i. To identify and examine the common physical health hazards and mental health impacts on food delivery workers.
- ii. To assess the availability and accessibility of social protections.
- iii. To provide recommendations for policy and platform-level interventions.

RESEARCH METHODOLOGY:

The study utilizes an exploratory and descriptive approach to examine the physical and mental health hazards encountered by food delivery gig workers in the urban setting. It relies solely on secondary data, enabling a thorough understanding of the current findings and research. The information has been gathered from various credible sources including government publications, academic journals, NGO reports, and media articles. These sources offer valuable insights into working conditions, health outcomes, and systemic challenges in the gig economy. The research aims to consolidate various viewpoints to highlight patterns, gaps, and potential policy measures related to occupational health risks in platform-based food delivery work.

BODY OF THE PROJECT:

HEALTH HAZARDS AND FACTORS CONTRIBUTING TO HEALTH HAZARDS:

Urban food delivery gig workers operate in demanding and often precarious environments. Their work exposes them to several physical risks due to long hours on the road, poor infrastructure, extreme weather, and constant time pressure. Furthermore, the algorithm-driven nature of gig platforms, combined with the absence of job security and customer-driven rating systems, contributes significantly to psychological stress. These conditions, often justified by the flexibility narrative of gig work, have led to increasing concerns about both physical and mental health among workers.

A. Physical Health Hazards:

Food delivery gig workers face numerous physical health issues due to the demanding nature of their jobs. Common problems include back pain, knee pain, muscle fatigue, and joint stiffness from long hours of riding and carrying heavy loads. Prolonged exposure to extreme weather often leads to dehydration, heat exhaustion, and sunburn. A 2024 survey by HeatWatch and TGPWU found that 52% of delivery workers suffered heat exhaustion and 30% heat strokes. Most lacked clean water, washrooms, and shaded rest spots, revealing severe neglect of worker safety and the urgent need for better labor protections.¹³²⁹

During peak summer shifts, headaches and dizziness are common among delivery workers, especially where shade and hydration are lacking. Prolonged exposure to urban air pollution can cause respiratory issues while navigating heavy traffic increase the risk of road injuries like bruises and fractures. Over time, these conditions may lead to chronic health problems, reduced mobility, and a decline in overall well-being.

B. Mental Health Hazards:

Food delivery gig workers often operate under high-pressure conditions that hurt their mental health. One of the main contributors to mental stress is income unpredictability, as they are dependent on the quantity of deliveries, the time of day, and customer ratings. This instability forces workers to work longer shifts, leading to chronic stress and anxiety. The algorithmic management system used by platforms assigns tasks, monitors performance, and even enforces penalties, often without room for negotiation. Workers who are subjected to such automated surveillance may feel helpless and emotionally drained. Additionally, the lack of job security—due to the absence of formal contracts—generates continuous worry about sudden deactivation from the app, even for slight infractions or

¹³²⁹ Heat Watch and Telangana Gig and Platform Workers Union. "Impact of Extreme Heat on Gig Workers: A Survey Report." 2024

complaints from consumers. The social isolation experienced while working long hours alone also adds to psychological fatigue, with little or no workplace interaction or support. In many cases, verbal abuse or harassment from customers goes unreported or unresolved, worsening emotional stress.

C. Factors contributing to these Health Hazards:

Due to the operational and structural aspects of platform-based work, food delivery gig workers are exposed to several health risks. Food delivery gig workers face various issues that negatively impact their physical and mental health. The immune system of these gig workers gets weakened due to long and irregular working hours – typically 10 - 12 hours a day – leading to chronic fatigue, disrupted sleep, and unhealthy eating habits. Algorithmic pressure and performance metrics enforced by apps compel workers to overextend themselves through penalties, peak-hour incentives, and customer ratings, causing persistent mental stress and a sense of helplessness. The majority of workers operate without insurance, safety equipment, or training due to a lack of social security and health benefits, making them susceptible to accidents and long-term physical strain from large delivery bags and badly maintained vehicles. Adverse working conditions, such as navigating traffic, climbing stairs with loads, dehydration, and lack of ergonomic support, further aggravate musculoskeletal issues. Finally, job and income insecurity, due to the absence of fixed contracts and unpredictable pay, compels workers to prolong shifts, worsening physical exhaustion and mental distress.

About 10,000 people from eight major Indian cities—Delhi, Lucknow, Jaipur, Indore, Mumbai, Kolkata, Hyderabad, and Bangalore—participated in the survey, which was released in 2024 by the People's Association in Grassroots Action and Movement (Paigam) in partnership with the Indian Federation of App-based Transport (IFAT). According to the figures,

98.5% of drivers suffer from mental health conditions such as anxiety, stress, irritability, and panic attacks, while 99.3% of drivers claim physical health problems like knee, leg, foot, and back discomfort.¹³³⁰

According to a UK survey during the COVID-19 pandemic, gig workers experienced 40% more mental distress than full-time employees, while the unemployed faced an 80% increase. Life satisfaction fell by 15% for gig workers and 20% for unemployed. Loneliness increased by 9% among gig workers and 19% among unemployed. These findings underscore the heightened psychological risks linked to precarious work and the mental health benefits of stable, full-time employment.¹³³¹

IMPACT OF THE COVID 19 PANDEMIC:

The COVID-19 pandemic significantly accelerated the growth of the gig economy in India, driven by massive unemployment, economic upheavals, and the rising demand for flexible work. As conventional jobs disappeared—India was projected to lose nearly 135 million jobs in 2020 alone—many individuals turned to non-conventional employment such as freelancing, part-time, and delivery-based work. With affordable internet access and the rise of digital platforms, millions found new ways to earn through online applications offering work-from-home opportunities or location-independent tasks. India's gig economy, already growing before the pandemic, has participation rates of 5–12%—notably higher than the below-4% average in developed countries¹³³². The majority of gig workers are engaged in low-paying blue-collar jobs such as food and goods delivery, ridesharing, and microtasks. According to estimates, India's gig workforce currently ranges between 8 to 15 million, and projections

¹³³⁰ PAIGAM, & IFAT. Prisoners on Wheels? Report on Working and Living Conditions of App-based Workers in India. Telangana Gig and Platform Workers Union. (2024).

¹³³¹ Senhu Wang et al., National survey of mental health and life satisfaction of gig workers: the role of loneliness and financial precarity, NIH, 12(12), pp 7-11, 2022

¹³³² Das, Arnab. "The gig economy and India's changing workforce." Fortune India, 3 April 2021,

suggest it could reach up to 24 million within a few years. If the sector reaches its full potential, it could generate up to 90 million gig jobs, with some estimates predicting 350 million opportunities by 2025.

Affordable internet and increasing smartphone usage made it simpler for people to participate in platform-based work from the safety of their homes. As businesses adapted to pandemic restrictions, many hired gig workers and freelancers to perform tasks remotely. The younger generation, especially millennials and Gen Z, preferred the flexibility and autonomy offered by gig roles, favoring work that aligned with their lifestyles.¹³³³ While the gig economy offered a safety net, it also intensified competition. Displaced formal workers, often more skilled, entered the gig space, reducing earnings for traditional gig workers and increasing job insecurity. Though firms hired more gig workers, exploitative practices also rose due to the surplus labor. Nevertheless, the sector is predicted to grow at a compound annual rate of 17%, with an estimated market size of \$455 billion by 2024, reshaping the employment landscape in post-pandemic India.¹³³⁴

WORKERS' PERCEPTIONS AND EXPERIENCES:

The lived realities of food delivery gig workers reveal a grim cycle of exploitation, neglect, and systemic discrimination. As exposed in "The Price We Don't Pay," these workers endure conditions resembling modern slavery—long hours, poor pay, and no labor protections. Labeled "independent contractors," they are denied benefits like health insurance, paid leave, or job security, leaving them vulnerable to abuse with little legal recourse. In New York, over 30% of surveyed riders reported physical assaults, often without police or platform support.¹³³⁵

In India, the terrible death of Mohammad Rizwan, a 23-year-old delivery worker, exposed the extreme neglect faced by workers; after a dog attack led to a deadly fall, his employer Swiggy offered no assistance. Discrimination based on religion and caste further compounds their struggles. Workers face verbal abuse, denial of entry, and demands to conceal their identity, with platforms doing little to intervene. Protests across cities emphasize growing outrage over unsafe working conditions, wage instability, and invisibility despite their critical role—particularly during the pandemic. These experiences deeply affect their mental and physical health, creating stress, fatigue, and a sense of disposability. Without meaningful legal reform and company accountability, the gig economy risks perpetuating a system of silent, systemic labor exploitation.

LEGAL AND POLICY GAPS:

1. Lack of employee status and its consequences: In India, food delivery gig workers are not legally recognized as "employees" or "workmen," but are treated as independent contractors. This classification excludes them from key labor laws, denying them rights like minimum wage, paid leave, provident fund, and health insurance. They are not covered under the Employees' State Insurance or Provident Fund Acts. As a result, they face income instability and cannot access legal remedies if unfairly removed or underpaid, since they fall outside the scope of protections under the Industrial Disputes Act.
2. Inadequate social security and health benefits: Although the Code on Social Security, 2020 recognized gig and platform workers and aimed to provide benefits like insurance, health, and old-age support, it remains unimplemented as of 2024. Despite being passed in 2020, no official notification has brought its provisions into effect. As a result, food delivery workers still lack access

¹³³³ Vivek kumar, "How has Covid - 19 Transformed the Gig Economy in India, Impact and policy Research Review, Vol 1, Issue 1, 2022

¹³³⁴ Sirohi, Seema. 2021. "Economic Survey 2020-21: India's gig economy now among largest in the world." *The Economic Times*, 2021

¹³³⁵ Laskaris Z, et al, A Price Too High: Injury and Assault among Delivery Gig Workers in New York City, *J Urban Health*, 2024 Jun;101(3):439-450.

to any statutory social security, leaving millions without formal protections.¹³³⁶

3. No enforceable standards for working conditions and safety: Food delivery gig workers are not covered under traditional labor laws or the Occupational Safety Code, leaving them without enforceable standards for working hours, safety, or welfare. Most work over 10 hours a day without mandated breaks, overtime pay, or rest periods. They face high on-road risks but lack legal entitlement to compensation under existing laws. Even after fatalities, families had to seek ex-gratia relief as workers were excluded from the Employees' Compensation Act. Platforms are not legally required to provide safety gear or insurance—during the COVID-19 pandemic, workers had to protest just to receive masks and sanitizers. This legal void leaves them exposed to exploitation, injuries, and unsafe conditions without remedy.
4. Algorithmic management and lack of platform accountability: Food delivery platforms use algorithmic systems to assign tasks, track performance, and determine pay—yet Indian laws provide no regulation or transparency over these processes. Workers can be deactivated without explanation or appeal, based on automated assessments like customer ratings or fraud flags. They have no legal right to challenge such decisions. Platforms also use gamified systems to drive productivity; for instance, Swiggy's tier-based model ties essential benefits like health insurance to performance. As a result, workers missing targets risk losing coverage—a practice criticized for turning basic welfare into a reward mechanism, with no accountability or oversight.¹³³⁷
5. Absence of collective bargaining rights and representatives: In India, food delivery

gig workers lack the legal right to unionize or bargain collectively, as they are not recognized as employees. Classified as independent contractors, they are excluded from protections under the Trade Unions Act and Industrial Disputes Act. Platforms deal with them individually, leaving no scope for collective negotiation over pay or working conditions. Although groups like IFAT have emerged to represent gig workers, their influence remains informal. Without the right to collective bargaining, key decisions—such as pay structures and incentives—are unilaterally imposed by platforms, leaving workers with little control over their terms of work.

SUGGESTIONS:

1. Grant employee status to food delivery workers to ensure legal labor protections.
2. Include them under public health schemes like Ayushman Bharat and ESI.
3. Mandate safety protocols such as work-hour limits, gear provision, and road safety training.
4. Implement welfare benefits like maternity leave, disability aid, and pension plans.
5. Encourage worker engagement through regular check-ins and open communication.
6. Offer mental health support by connecting workers with professional counselors.

CONCLUSION

In conclusion, the physical and mental health hazards faced by urban food delivery gig workers are caused by excessive working hours, unsafe environments, and lack of social protection. While these workers bear immense physical strain and psychological stress, their classification as independent contractors excludes them entitled to basic labor rights. The Code on Social Security, 2020 marks a major step toward addressing these challenges by proposing welfare measures like insurance, health benefits, and old age protection.

¹³³⁶ Abraham Thomas, Fundamental rights of Gig workers not violated: Government, Hindustan Times, 2024

¹³³⁷ Varsha Bansal, This delivery app takes away health insurance when workers don't meet quotas, Rest of the World, 2023

Although the provisions are yet to be implemented, ongoing stakeholder consultations reflect a growing recognition of gig workers' vulnerabilities and the urgent need for comprehensive and enforceable social security frameworks.

8. Vivek kumar, "How has Covid - 19 Transformed the Gig Economy in India, Impact and policy Research Review, Vol 1, Issue 1, 2022

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