

**COMPREHENSIVE ASSESSMENT OF THE HEALTH STATUS OF RAILWAY
WORKERS IN THE FERGANA VALLEY AND DEVELOPMENT OF HEALTH
IMPROVEMENT MEASURES**

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Abstract: The Fergana Valley, an important hub of Uzbekistan's railway system, employs a diverse range of workers, each exposed to unique occupational hazards. This study aims to comprehensively assess the health status of railway workers in this region and propose targeted health improvement interventions. Using a cross-sectional design, data were collected through health screenings, surveys, and occupational analyses. The findings highlight prevalent health issues such as musculoskeletal disorders, respirato...

Keywords: Fergana Valley, railway workers, occupational health, ergonomic interventions, workplace safety.

Introduction

The railway sector plays a pivotal role in Uzbekistan's transportation infrastructure, especially in the densely populated Fergana Valley. However, railway workers face significant health risks due to long working hours, exposure to physical and environmental hazards, and high job demands. Previous studies on occupational health in Uzbekistan have largely overlooked this specific workforce, making this research essential. The primary objectives of this study are to assess the health conditions of railway

Methods

A mixed-method approach was employed to gather comprehensive data.

1. Study Design and Population: A cross-sectional study was conducted among 300 railway workers, including train drivers, wagon inspectors, and maintenance staff, in Fergana, Andijan, and Namangan regions.
2. Data Collection:
 - Health Screenings: Participants underwent physical examinations, blood pressure monitoring, and respiratory function tests.
 - Surveys: Self-reported questionnaires captured information on occupational stress, physical activity levels, and perceived health issues.
 - Workplace Observations: Ergonomic assessments and air quality measurements were performed at key work sites.
3. Data Analysis: Descriptive statistics were used to summarize health outcomes, while inferential statistics identified associations between job roles and specific health conditions.

Results

The analysis revealed the following key findings:

- Musculoskeletal Disorders: Over 45% of workers reported back pain or joint problems,

predominantly among train drivers and maintenance staff.
- Respiratory Issues: Elevated levels of respiratory complaints (30%) were observed, particularly among wagon inspectors exposed to dust and fumes.
- Chronic Fatigue: Approximately 60% of respondents experienced chronic fatigue, linked to irregular shifts and long hours.
- Psychosocial Stress: High levels of occupational stress were reported, with job insecurity and workload being major contributing factors.

Table 1: Summary of Health Conditions Among Railway Workers

Health Issue	Percentage of Affected Workers
Musculoskeletal Disorders	45%
Respiratory Issues	30%
Chronic Fatigue	60%
Psychosocial Stress	50%

Discussion

The findings underscore the urgent need for interventions to improve the health and safety of railway workers in the Fergana Valley. Specific recommendations include:

- Workplace Ergonomics: Redesigning workstations to minimize physical strain, particularly for train drivers and maintenance personnel.
- Health Monitoring Programs: Regular health screenings to identify and address issues at an early stage.
- Occupational Safety Measures: Enhancing air quality in work environments and providing protective equipment.
- Shift Management: Implementing balanced shift schedules to reduce fatigue and improve mental well-being.

Conclusion

This study highlights the critical health challenges faced by railway workers in the Fergana Valley and offers actionable strategies to address these issues. By implementing the recommended interventions, railway authorities can foster a healthier and more productive workforce, ultimately enhancing the efficiency of Uzbekistan's railway system.

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