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Occupational Health Conditions, Healthcare Utilization and Access Barriers among Bangladeshi Migrant Workers in Malaysia: A Cross-sectional Study

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Abstract

Background: *Bangladeshi migrant workers in Malaysia often work in labor-intensive sectors where occupational exposure, crowded accommodation, and restricted healthcare access may affect health. This study assessed reported occupational health conditions, healthcare utilization, treatment responses, and access barriers among Bangladeshi migrant workers in Kuala Lumpur and Selangor.*

Materials and Methods: *A community-based cross-sectional study was conducted among 400 Bangladeshi migrant workers aged 18 years or above and employed in Malaysia for at least six months. Data were collected by face-to-face interview using a structured questionnaire. Variables included demographic profile, occupation, living condition, PPE, safety training, reported health problems, treatment pathway, treatment outcome, satisfaction, language, and cost barriers. Data were analyzed using SPSS version 27.0. Chi-square test and binary logistic regression were applied, and $p<0.05$ was considered significant.*

Results: *Mean age was 30.60±8.18 years. Construction workers constituted 45.0% of respondents. 250 (62.5%) respondents reported at least one strict occupational disease. Infection was the commonest occupational condition [145 (36.3%)], followed by spinal/musculoskeletal pain [110 (27.5%)], skin disorders [80 (20.0%)], and traumatic injuries [65 (16.3%)]. Overall, 320 (80.0%) respondents sought treatment for any health problem. Language and cost barriers were reported by 196 (49.0%) and 120 (30.0%) respondents. Infection was significantly associated with dormitory/shared accommodation ($p<0.001$). Language barrier, high medication costs, duration >3 years, and no PPE significantly predicted an unsatisfactory outcome.*

Conclusion: *Bangladeshi migrant workers experienced a substantial burden of occupational morbidity and healthcare access barriers. Improved PPE provision, safety training, improved living conditions, and migrant-friendly health communication may reduce morbidity and improve outcomes.*

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Keywords: *Bangladeshi migrant workers; occupational health; healthcare utilization; Malaysia; personal protective equipment; language barrier.*

Introduction

Migrant workers are central to Malaysia's labor-intensive economy, particularly in construction, manufacturing, and services. These sectors commonly involve physically demanding work, long working hours, and exposure to occupational hazards. Globally, migrant workers have been shown to experience higher occupational exposure, injury, and illness than many host populations, partly because of precarious employment, limited protection and language or legal vulnerability [1,2]. Bangladesh is a major labour- sending country, and Bangladeshi workers in Southeast Asia often occupy low-skilled jobs where health and safety protection may be inconsistent [3]. Health problems

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among migrant workers are not limited to workplace injury. Reviews from Malaysia and comparable destination settings have identified occupational hazards, musculoskeletal disorders, infectious diseases, mental health concerns and healthcare access barriers as recurrent problems [4,5]. In Malaysia, infectious diseases among migrants and non-citizens have also been linked to crowded settlements and poor sanitation [6]. These findings are important for Bangladeshi workers, who often live in shared accommodation and work in environments where infections, skin disease, musculoskeletal pain and injury may overlap.

Healthcare utilization among migrant workers is influenced by affordability, insurance coverage, legal documentation, language and employer-related barriers. Studies in Malaysia have shown that migrant workers may delay seeking care because of high fees, uncertainty about entitlements, language barriers and lack of culturally appropriate communication [7–9]. The present study therefore assessed common occupational health conditions, healthcare utilization, communication barriers and predictors of poor outcomes among Bangladeshi migrant workers in Kuala Lumpur and Selangor, Malaysia.

Materials and Methods

Study design and setting: This community-based cross-sectional study was conducted among Bangladeshi migrant workers residing or working in Kuala Lumpur and Selangor, Malaysia. Data collection was carried out at workplaces, worker accommodations and nearby community locations.

Study population and sampling:

Bangladeshi migrant workers aged 18 years or above, employed in Malaysia for at least six months and willing to provide informed consent were eligible. Workers who were hospitalised or unable to provide consent were excluded. A total of 400 respondents were included using a snowball and convenience sampling approach initiated through worker hubs, company dormitories and community contacts.

Data collection tool and variables:

Data were collected by trained interviewers using a structured questionnaire. Information was obtained on age, education, job category, duration in Malaysia, working hours, living condition, PPE provision, safety training, reported health problems, treatment seeking, treatment pathway, treatment outcome, health service satisfaction, language barrier and cost barrier. Strict occupational disease was defined as the presence of at least one of infection, spinal/musculoskeletal pain, skin disorder or traumatic injury. Dental problem was recorded as a general health complaint and was not included in strict occupational disease classification.

Ethical considerations: Ethical approval was obtained from the appropriate institutional ethics committee Approval No. : **PAHMC/IERB/2023/08/08**. Written informed consent was obtained from all respondents. Data were collected anonymously and kept confidential.

Statistical analysis: Data were checked, coded and analyzed using SPSS version 27.0. Quantitative variables were summarized as mean±SD and categorical variables as frequency and percentage. Chi-square test was used to assess associations between categorical variables. Binary logistic regression was performed to identify predictors of unsatisfactory outcomes. Odds ratio (OR) with 95% confidence interval (CI) was reported. A p-value <0.05 was considered statistically significant.

Results

A total of 400 Bangladeshi migrant workers were included. Mean age was 30.60±8.18 years. Most respondents were aged 26-35 years (45.0%), followed by 18-25 years (30.0%). Construction workers formed the largest occupational group (45.0%), followed by factory workers (35.0%) and services/cleaning workers (20.0%). Mean duration in Malaysia was 3.13±1.69 years and mean working hour was 10.10±1.44 hours per day (Table I).

Table I. Socio-demographic and occupational characteristics of respondents (N=400)

Characteristic	Category	n	%
Age (years)	18-25	120	30.0
	26-35	180	45.0
	36-45	80	20.0
	>45	20	5.0
	Mean±SD	30.60±8.18	
Education	No formal	40	10.0
	Primary	160	40.0
	Secondary	140	35.0
	Higher	60	15.0
Job category	Construction	180	45.0
	Factory	140	35.0
	Services/Cleaning	80	20.0
Duration in Malaysia	6 months-1 yr	60	15.0
	1-3 yrs	160	40.0
	>3 yrs	180	45.0
	Mean±SD	3.13±1.69	
Working hours/day	8	80	20.0
	>8-10	140	35.0
	>10-12	180	45.0
	Mean±SD	10.10±1.44	
Living condition	Company	140	35.0
	Shared	130	32.5
	Dormitory	130	32.5

Values are expressed as frequency (%) unless otherwise stated.

Dental problem was the commonest general health complaint [191 (47.8%)] but was not classified as a strict occupational disease. Among strict occupational conditions, infection was reported by 145 (36.3%), spinal/musculoskeletal pain by 110 (27.5%), skin disorder by 80 (20.0%) and traumatic injury by 65 (16.3%) respondents. Overall, 250 (62.5%) respondents had at least one strict occupational condition (Table II).

Table II. Distribution of reported health conditions among respondents

Reported condition	n	%
Dental problem (general health complaint)	191	47.8
Infection (respiratory/diarrhoeal/fever/skin infection)	145	36.3
Spinal/musculoskeletal pain	110	27.5
Skin disorders (dermatitis, fungal, contact dermatitis)	80	20.0
Traumatic injuries (cuts, fractures, burns)	65	16.3
Total with >=1 strict occupational condition	250*	62.5

***Multiple responses were allowed; therefore, percentages do not add up to 100%. Dental problem was not included in strict occupational disease classification.**

Overall, 320 (80.0%) respondents sought treatment for any health problem. Clinic/hospital care was reported by 170 (42.5%) and pharmacy/self-medication by 150 (37.5%) respondents. Satisfactory improvement was reported by 232 (58.0%), while relapse/no improvement/no treatment was reported by 168 (42.0%). Language and cost barriers were reported by 196 (49.0%) and 120 (30.0%) respondents, respectively (Table III).

Table III. Healthcare utilization, treatment response and access barriers among respondents

Item	Category	n	%
Sought any treatment	Yes	320	80.0
	No	80	20.0
Treatment type recorded	Clinic/Hospital	170	42.5
	Pharmacy/self-medicated	150	37.5
	None	80	20.0
Overall reported treatment outcome	Satisfactory improvement	232	58.0
	Relapse/no improvement/no treatment	168	42.0
Overall reported language barrier	Yes	196	49.0
Overall reported cost barrier	Yes	120	30.0
Overall health service satisfaction	Excellent	53	13.3
	Good	125	31.3
	Fair	131	32.8
	Poor	91	22.8
Self-reported health change	Improved	232	58.0
	Same	80	20.0
	Worsened	88	22.0

Percentages were calculated among total respondents (N=400). Treatment seeking refers to any reported health problem and was not restricted to strict occupational diseases.

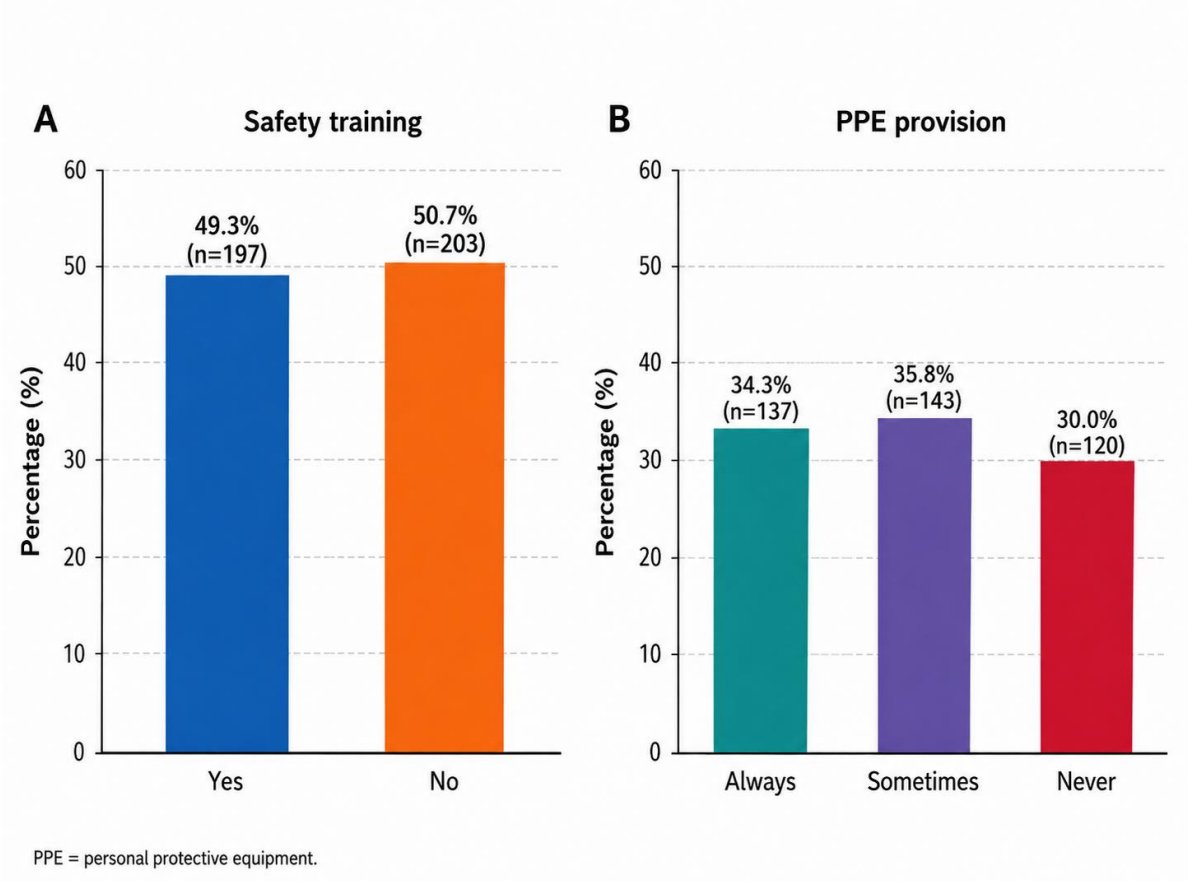

Figure 1. Distribution of workplace safety indicators among respondents (N=400).

Figure 1 indicates suboptimal workplace safety practice, with nearly half of respondents lacking safety training and only one-third reporting consistent PPE provision.

Living condition was significantly associated with infection. Infection was more frequent among respondents living in dormitories [60 (46.2%)] and shared housing [55 (42.3%)] compared with company housing [30 (21.4%); p<0.001]. Language and cost barriers were also significantly associated with unsatisfactory outcome (Table IV).

Table IV. Key bivariate associations with infection and unsatisfactory outcome

Variable	Category	Outcome present n (%)	Outcome absent n (%)	Total	p value
Living condition vs infection	Company	30 (21.4)	110 (78.6)	140	<0.001
	Dormitory	60 (46.2)	70 (53.8)	130	
	Shared	55 (42.3)	75 (57.7)	130	
Language barrier vs unsatisfactory outcome	Yes	100 (51.0)	96 (49.0)	196	<0.001
	No	68 (33.3)	136 (66.7)	204	
Cost barrier vs unsatisfactory outcome	Yes	65 (54.2)	55 (45.8)	120	0.001
	No	103 (36.8)	177 (63.2)	280	

For living condition, outcome present means infection present. For language and cost barriers, outcome present means relapse/no improvement/no treatment.

Strict occupational disease was significantly associated with job category, PPE provision and working hours. Disease was more frequent among construction workers, respondents who never received PPE and those working more than 10 hours per day (Table V).

Table V. Association of selected factors with strict occupational disease occurrence

Variable	Category	Disease present n (%)	Disease absent n (%)	Total	p value
Job type	Construction	125 (69.4)	55 (30.6)	180	**0.010**
	Factory	85 (60.7)	55 (39.3)	140	
	Services/Cleaning	40 (50.0)	40 (50.0)	80	
Duration in Malaysia	<=3 years	129 (58.6)	91 (41.4)	220	0.078
	>3 years	121 (67.2)	59 (32.8)	180	
PPE provided	Always	73 (53.3)	64 (46.7)	137	**0.004**
	Sometimes	89 (62.2)	54 (37.8)	143	
	Never	88 (73.3)	32 (26.7)	120	
Working hour	8 hours	47 (58.8)	33 (41.3)	80	**0.031**
	>8-10 hours	78 (55.7)	62 (44.3)	140	
	>10 hours	125 (69.4)	55 (30.6)	180	
Safety training	Yes	115 (58.4)	82 (41.6)	197	0.093
	No	135 (66.5)	68 (33.5)	203	

Strict occupational disease included infection, spinal/musculoskeletal pain, skin disorder and traumatic injury

In logistic regression, duration in Malaysia >3 years, communication barrier, cost barrier and no PPE were significant predictors of unsatisfactory outcome (Table VI).

Table VI. Logistic regression predicting unsatisfactory outcome

Predictor	OR	95% CI	p value
Age, per year increase	1.012	0.987-1.038	0.353
Construction job	1.193	0.795-1.789	0.408
Duration >3 years	1.144	1.012-1.294	**0.034**
Communication barrier	2.080	1.373-3.152	**0.001**
Cost barrier	1.575	1.007-2.462	**0.046**
No PPE	1.929	1.234-3.014	**0.004**

Reference categories: non-construction job, duration <=3 years, no communication barrier, no cost barrier and PPE provided always/sometimes. Outcome variable: relapse/no improvement/no treatment.

Discussion

This study found a substantial burden of reported occupational morbidity among Bangladeshi migrant workers in Malaysia. Nearly two-thirds of respondents had at least one strict occupational condition. Infection was the most frequent occupational condition, followed by spinal/musculoskeletal pain, skin disorders and traumatic injuries. This pattern is consistent with global evidence that migrant workers are commonly exposed to adverse working environments and experience work-related morbidity and injury [1,2]. Similar health domains, including occupational hazards and infectious diseases, were highlighted in a systematic review of Nepalese migrant workers in Malaysia and the Gulf countries [5].

The predominance of infection in this study is important because living conditions were significantly associated with infection. Respondents living in dormitories and shared accommodation reported higher infection rates than those living in company housing. Poor ventilation, overcrowding, and limited sanitation can increase transmission of communicable illnesses. Putera et al. [6] similarly reported that migrants and non-citizens in Malaysia were vulnerable to infectious diseases, partly related to cramped living conditions and sanitation problems. Recent evidence on Bangladeshi migrants in Southeast Asia also describes overcrowded and unhealthy accommodation as a recurring structural vulnerability [3].

Healthcare utilization was high, but access barriers remained common. Four-fifths of respondents reported seeking treatment for any health problem, yet almost half reported language barriers and nearly one-third reported cost barriers. These findings align with Karim and Diah[9], who described limited medical support and reliance on self-treatment among Bangladeshi workers in Malaysia. Loganathan et al. identified affordability, legal documentation, language barriers and employer-related restrictions as important barriers to healthcare access among migrant workers in Malaysia[7]. Similarly, Loganathan, Chan and Pocock showed that insurance and financing arrangements may remain inadequate for migrant workers despite mandatory schemes[8].

The regression findings further support the importance of communication and workplace protection. Communication barrier, cost barrier, and lack of PPE significantly predicted unsatisfactory outcomes. These findings are consistent with evidence that language difficulties may reduce the quality of care, informed consent, and adherence [7,10]. The association between no PPE and poor outcomes also supports the need for employer-supported occupational safety. Although this cross-sectional study cannot prove causality, the findings indicate that clinical services for migrant workers should be linked with workplace prevention, interpreter support, affordable access and improvement of living conditions.

Limitations

This study had limitations. The cross-sectional design prevents causal inference. Some health conditions and outcomes were self-reported and may be affected by recall bias. Snowball and convenience sampling may limit generalizability. The study was limited to Bangladeshi migrant workers in Kuala Lumpur and Selangor, and findings may not represent all migrant workers in Malaysia.

Conclusion:

Bangladeshi migrant workers in Malaysia experienced a considerable burden of occupational and general health problems, with infection, musculoskeletal pain, skin disorders, and injury representing important occupational conditions. Healthcare utilization was common, but language and cost barriers were frequent and were associated with poorer outcomes. Improved living conditions, consistent PPE provision, workplace safety training, affordable care, and migrant-friendly communication services may improve health outcomes in this vulnerable population.

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Conflict of interest

The authors declare no conflict of interest.

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Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

AI Disclosure

No artificial intelligence (AI) tools were used in the preparation of this manuscript.

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