

Preventing injury risks and improving work safety amongst factory workers in urban Bangladesh: a participatory before-and-after intervention study



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Background

Since 2014, MSF has provided occupational health (OH) care to factory workers in Kamrangirchar, a peri-urban area of Dhaka.

Addressing occupational injury and disease has been declared a national priority. However critical gaps remain in enforcing interventions to improve work safety and on how to collaborate with workers to mitigate hazards inside workspaces.

Aim

We aimed to assess the feasibility of collaborating with two factories to design and implement occupational health interventions to improve work safety in Kamrangirchar, Dhaka.

Conclusions

- It was feasible to work with workers to design and implement interventions inside factories.
- Analysis suggests a reduction of risks as well as injury burden.
- Accidents and injuries are part of the day-to-day working realities with consequences for workers' health and wellbeing.
- Urgent action is needed to improve workplace safety, and specifically to protect young workers.

Methods

Study design

Participatory mixed methods before-and-after study, over three phases:

Phase 1 (pre-intervention): to understand the dynamics of incidents, injuries, hazards and risks using quantitative hazard assessments and surveillance, and explore workers' perceptions and experiences of works safety using in-depth interviews

Phase 2 (intervention implementation): triangulation of findings from phase 1 informed design and implementation of intervention packages in collaboration workers

Phase 3 (post-intervention): repeat hazard assessments to document changes in working conditions and qualitative methods explore changes in workers' perceptions.

“Our sufferings have lessened now... Now we hardly have cut injuries... Because everyone is working wearing the gloves. Whilst walking, we wear shoes.”

“You come and explore individual's problems here... We like that you come and try to take care of us and to keep us healthy. We like that most.”

Participants:

67 workers participated in the study:

- 54 adults, 13 children (<18 years old), 10 women

Phase 1:

- 166 incidents and 129 (77%) injuries were reported in both factories over an average period of 17 weeks.
- All children under 18 years experienced incidents (60% experienced multiple incidents).

Phase 2:

- Intervention packages implemented included engineering controls, personal protection equipment (PPE) distribution, and improved infrastructure safety (e.g. electricity, water and sanitation, chemical storage).

Over study phases:

- ✓ Proportion of compliance to injury surveillance increased by 17%.
- ✓ Injury burden among children decreased by 8%.
- ✓ PPE use increased by 16% amongst adult workers and 6% amongst children.

Results

Engineering Control (Belt Guard)



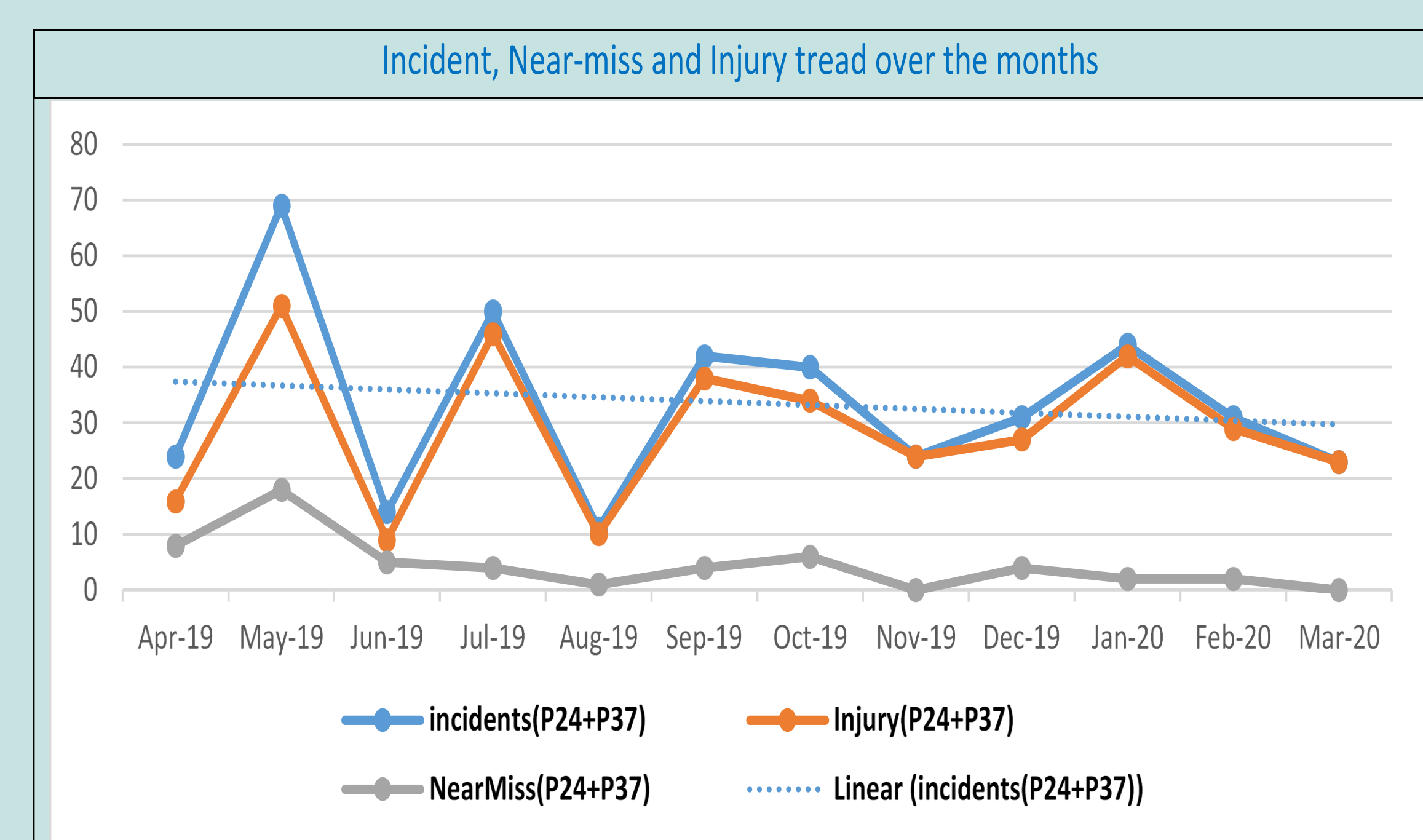
Utilization of PPE among women



In phase 3, hazard assessments estimated more than a 2-fold reduction in the relative risk score in one factory and a 1.5-fold in the other compared to phase 1.

Workers perceived their work as risky, describing regular injuries but explained work was prioritized over health due to financial necessity.

Avoiding injuries was seen as a responsibility of individual worker. Interventions were positively perceived by workers described to have reduced serious and potentially fatal incidents.



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