Occupational safety and health development and challenges in Ethiopia: a case study of the Hawassa Industrial Park

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ABSTRACT

Background: In Ethiopia, industrial parks that specialise in garment production are increasing in number and have created job opportunities for more than 45 000 workers. However, healthcare services, including occupational safety and health (OSH), are not commensurate with the growth and needs of the industry.

Objectives: We assessed the supply and demand, barriers, governance, and regulation of health services and OSH at Hawassa Industrial Park, the largest industrial park in Ethiopia.

Methods: Qualitative and quantitative data were collected via interviews with 260 randomly selected workers, focus group discussions with workers and health professionals, and key informant interviews with industrial park management, and government and non-government stakeholders. Ethiopian OHS polices, regulations, guidelines, directives, and strategies were also reviewed.

Results: Hawassa Industrial Park hosts 21 globally known companies and more than 23 000 workers. Of the 260 workers interviewed, most (83.1%) were aged 18-24 years. Findings included that the delivery of OSH and primary healthcare is inadequate to ensure safety and meet workers' needs. Use of personal protective equipment is erratic; conditions in the cafeteria are unsanitary, as is the water; use of bathrooms is restricted; workers work long shifts with short breaks; wages are low; and healthcare is expensive, increasing the risk of occupational injuries and diseases. Workers have no OSH committee or trade unions, and Ethiopian Government regulations and enforcement are weak. There is no collaboration between the Park and the Ministry of Health to provide primary healthcare services for the workers.

Conclusion: The workers in Hawassa Industrial Park urgently need improved access to, and coverage for, primary healthcare, including OSH; higher wages; and empowerment to exercise their right to organise. All stakeholders need capacity building to enable them to implement OSH.

INTRODUCTION

The Ethiopian Government's second growth and transformation plan has the vision of making Ethiopia the leading manufacturing hub in Africa by 2025.[1] The Government has focused on industrial park development, in different locations in the country, by the Industrial Park Development Corporation (IPDC) and private companies. Industrial parks are expected to attract foreign direct investment, facilitate growth of exports, bring in foreign currency, and create employment opportunities for young people in the country.[1-3] So far, the Government and private companies have constructed and operationalised 19 industrial parks in different parts of the country – nine specialising in garments and textiles, five in agro-processing, one in leather products, one in pharmaceuticals, and three with mixed purposes.[3] In the last half-decade, the country's textile and apparel industry has grown at an average annual rate of 51%, with more than 65 textile investment projects licensed for foreign investment during that period.[4] Employment in the textiles and apparel industry was estimated at 798 752 in 2018, and is forecast to grow by 86% through 2025, creating more than 683 000 new direct jobs.[5]

The garment industry is growing fast and prominent global brands are attracted to Ethiopia because the Government provides fiscal and non-fiscal incentive packages, low energy costs, and favourable trade access to US and European Union (EU) markets.[3,6] The availability of abundant cheap labour, as promoted by the Ethiopia Investment Commission (EIC), and the non-existence of minimal wages for workers in the private sector, are among the factors that attract investors seeking locations with low production costs.[6]

The global occupational safety and health (OSH) burden is significant. According to the International Labour Organization (ILO), there are 2.78 million work-related deaths, globally, and 374 million nonfatal work-related injuries and diseases annually, contributing to an estimated 4% loss in global gross domestic product.[7] Data on OSH in developing countries are scarce, but some researchers estimate that more than 120 million occupational accidents occur each year in developing countries, with more than 200 000 fatalities.[8] Africa contributes to 12% of the global mortality due to work-related injuries and diseases.[7]

The issue of OSH has been a global concern for a long time, but access to, and regulation of, OSH remains a major challenge. Only about 20–50% of workers in industrialised countries and 5–10% of workers in developing countries have access to OSH services.[9]

The situation of OSH in Ethiopia is like that of other developing countries: even though regulatory and structural frameworks are in place, their implementation and enforcement are weak.[10,11] Information on occupational diseases and injuries or accidents is not systematically recorded, evaluated and monitored. Different studies measuring the burden of injuries in Ethiopia reported a prevalence of injuries of 80/1 000 workers in non-textile factories, compared with 200/1 000 workers in the textile industry.[11]

Although the expansion of the textile and garment industry in Ethiopia is expected to improve the economy and has brought unparalleled employment opportunities, working conditions, including OSH, are emerging as a major concern for many stakeholders. Global news outlets[12] and workers' rights groups[13,6] have reported on the grim working conditions of industrial park workers. These include very low wages ~ 25.00 US dollars (USDs) per month, and poor access to OSH, as well as sexual harassment. About 45% of the workers in the textile and garment factories at industrial parks report being concerned about their safety.[14] Only 52% of the workers at industrial parks are provided with personal protective equipment (PPE),[14] which is lower than the 56% reported by workers at local (i.e. non-industrial park) textile and garment factories.[15]

Hawassa Industrial Park (HIP) is the largest Government-built industrial park in Ethiopia, dedicated to producing exportable ready-made apparel, and the largest garment and textile industrial park in Africa. Currently, HIP is leased to 21 garment textile and apparel companies that employ more than 23 000 workers, most of whom are young women. When operating at full capacity, HIP can employ up to 60 000 workers and generate up to USD 1 billion in exports annually.[2,3]

The aim of this study was to assess OSH at HIP as a case study to demonstrate the situation in Ethiopia's rapidly growing garment industry. The assessment specifically explored the availability of and access to health services, and workers' demands and needs for health services; the companies' financing mechanisms for ensuring access to these services; and practices in the governance and regulation of OSH at HIP.

METHODS

Hawassa Industrial Park is Ethiopia's flagship industrial park; it began operations in 2017[2] and is considered an eco-park. Its state-of-the-art infrastructure includes a zero-liquid-discharge common treatment plant that enables recycling and reuse of water, and a power station that uses renewable hydroelectric power and energy-saving lightbulbs. Hawassa Industrial Park is compliant with international building and structural standards, and with international standards for electrical and fire safety, onsite health facilities, and security services. It lies on the outskirts of Hawassa city, the capital city of the Southern Nations, Nationalities, and Peoples' Region, which is 275 km away from Addis Ababa, the capital city of Ethiopia. During the study period, HIP hosted 21 foreign readymade apparel-producing factories, representing 19 branded companies actively operating, in 52 'sheds' (working stations).

A descriptive cross-sectional study design was used to collect quantitative and qualitative data. Two hundred and sixty HIP factory workers from 17 companies were interviewed. A standardised pretested questionnaire was used to gather information on demographic characteristics, employment, health needs, access to healthcare services, and safety and security. The sample size was calculated using the formula $N = (z\alpha/2)2P(1-P)/d2$, where $z\alpha/2 = 1.96$, $P = 50\%$, and $d = 0.06$; $z\alpha/2$ is the level of confidence, P is the mean proportion of 50% expected in the sample, and d is the margin of error. The calculation assumed a non-response rate of 20%.

The number of participants selected from each shed was based on the number of workers in the shed (proportional sampling). Participants from each shed were selected using random numbers generated by Microsoft Excel.

A health facility assessment tool was used to assess the HIP health facility's infrastructure, the quality and quantity of its professionals and the range of health services provided, daily patient load, laboratory and imaging diagnostic capacity, types of essential pharmaceuticals and materials available, referral system and management, documentation and reporting, and working relationship with the public and private health system in the town.

Two focus group discussions (FGDs) were conducted with female workers (up to eight in each group) selected randomly from 14 conveniently located companies, and another with nurses working as primary caregivers (one each from eight different nursing stations). The purpose of the FGDs with the workers was to gain a deeper insight into their health and safety concerns than could be obtained from administering a structured questionnaire. These FGDs covered issues related to health problems, work-related injuries and hazards, the healthcare delivery system and policies, workers' rights, and their relationships with their employers. The FGDs conducted with nurses focused on similar issues to those covered in the workers' FGDs, to corroborate findings gathered from the workers.

Key informant interviews (KIIs) were conducted with one person from each of 18 different authorities that have stakes in the OSH of workers in HIP. Interviewees included the EIC, which is in charge of opening up business to foreign companies; HIP management; the IPDC, whose role is to manage and coordinate the day-to-day activity in HIP; the HIP Investors Association (HIA), which was created by the companies at HIP to foster efficient collective action in improving infrastructure, organising workers' training, and ensuring a safe working environment; human resource managers from two companies; and the Confederation of Ethiopian Trade Unions (CETU), which represents the interests of workers in Ethiopia. The KIIs focused mainly on governance related to ensuring OSH, and gaps and plans to address these.

Members of the Bureau of Labour and Social Affairs (BOLSA) in the region were interviewed about their capacity to enforce the labour law and OSH, and their experiences with delivery of OSH services in the Park. Members of the Regional Health Bureau (RHB) and Health Department of the Hawassa city administration were interviewed to assess their preparedness to meet the health service needs of the more than 23 000 workers in the Park, effects of HIP on the health system in the city, and any existing working relationships with HIP intended to meet the health service needs of the workers. Similarly, medical directors at the tertiary teaching and referral university hospital, the regional referral hospital, five private hospitals, and a pharmacist from a private pharmacy in the city were interviewed to learn about the scope of health services delivered in the facilities, common health problems of HIP workers visiting their facilities, and working agreements with HIP or companies in HIP.

Additionally, polices, regulations, guidelines, directives, and strategic plans pertaining to ensuring OSH in Ethiopia were reviewed.

This study was conducted by a team of health system and health finance specialists from March to May 2019, in Hawassa and Addis Ababa.

Data analysis

Data were cleaned, checked for consistency, edited, and analysed using SPSS (version 25.0). Results from the descriptive analysis of the quantitative data are presented in frequency tables.

The transcripts from the FGDs were analysed, using pre-determined thematic areas that included health problems experienced, health service needs, occupational hazards, health systems and policies, and workplace rights and relationships with employers. Similarly, the information from the KIIs was categorised as being related to governance, regulation, financing, and/or coordination. All information was combined and analysed from the perspective of provisions in the national laws, regulations, guidelines, and directives related to OSH.

We received ethics clearance for the study from the Abt Institutional Review Board, and permission to conduct the study from the IPDC, the HIA, and the RHB of the Southern Nations, Nationalities, and Peoples' Region. Informed consent was sought from all participants. Responses collected from participants remained confidential.

RESULTS

The work environment

During the study, 21 factories were operational at HIP: one from the United States; one each from the UK, France, Spain, and Belgium; four from Sri Lanka; three from India; two from Indonesia; two from China; three from Hong Kong; one from Taiwan; and one from Ethiopia. Twenty factories were producing apparel (garments and accessories); one was manufacturing textiles and supplying fabrics to the companies in the Park. The entire output of all the factories in HIP is sold to Phillips-Van Heusen Corporation (PVH), The Children's Place, and Hennes & Mauritz AB (H&M).

The KIIs with HIP management and the HIA elicited information about employees and activities in the Park. The companies employed 23 136 semi-skilled and unskilled workers (22–3 494 workers per company) at the time of data collection. The workers are employed in either garment manufacturing (cutting, sewing, packing and other warehouse functions), or in the textile factory, where they work with heavy machinery (e.g. in a fabric mill), chemicals (for dyeing fabric), and boilers.

Each shed has its own nursing station, owned and run separately by each company. Additionally, the private Vision Medium Clinic provides health services to all the workers in HIP.

Most factories have two shifts of eight to 10 hours each, with one 30-minute break. Workers have either five- or six-day work weeks. Use of the bathroom is controlled by the factory owners to limit overuse and misuse of bathroom time. Some workers complained that bathrooms were locked for entire shifts.

Many companies provide free meals (lunch) in a cafeteria and/or a food allowance; the workers frequently complain, and sometimes strike, because of the poor quality of the food. The water source for HIP is the city's system, as the Park's water treatment and recycling plant are not yet operational. There is a widespread belief that the water quality at HIP is poor. A company manager confirmed that there had been a recent incident of laboratory-proven bacterial contamination of the Park's water supply. Many workers also complain about exposure to extreme heat, chemicals and noise.

Sociodemographic characteristics of the study participants

As depicted in Table 1, 260 workers were interviewed, most of whom were women (n = 224, 86.2%) and young – aged 18–24 years (n = 216, 83.1%). Most were 'never married' (n = 227, 87.3%). Similar proportions were living with their families or others (n = 113, 43.5% and n = 111, 42.7%, respectively). A third had attended college or university (n = 86, 33.1%).

According to the EIC, most workers are from outside Hawassa and earn USD 1.75–3.15 per day (including allowances), with most earning < USD 2.00 per day.

The participants were working as sewer/cutter/machine operators (n = 135, 52.0%), line leaders/supervisors (n = 50, 19.2%), quality control inspectors (n = 32, 12.3%), packing and warehouse workers (n =16, 6.2%), office workers (n = 6, 2.3%), or in other occupations (n = 21, 8.1%).

Table 1. Sociodemographic characteristics of the study participants at HIP (N = 260)

Characteristic	n	%
Sex		
Male	36	13.8
Female	224	86.2
Age group (years)		
18–24	216	83.1
25–30	42	16.2
31–34	1	0.4
35+	1	0.4
Highest educational level		
8th grade	4	1.5
9th–12th grade	170	65.4
> 12th grade	86	33.1
Marital status		
Never married	227	87.3
Married (living together)	26	10.0
Married (not living together)	4	1.5
Divorced	3	1.2
Living conditions		
Live alone	36	13.8
Live with family	113	43.5
Live with people who are not family	111	42.7
Children < 15 years of age		
Yes	30	11.5
Age range of children (years)		
< 5	8	3.1
5–15	13	5.0
Both	7	2.7
Plan to have children in the future		
Yes	247	95.0

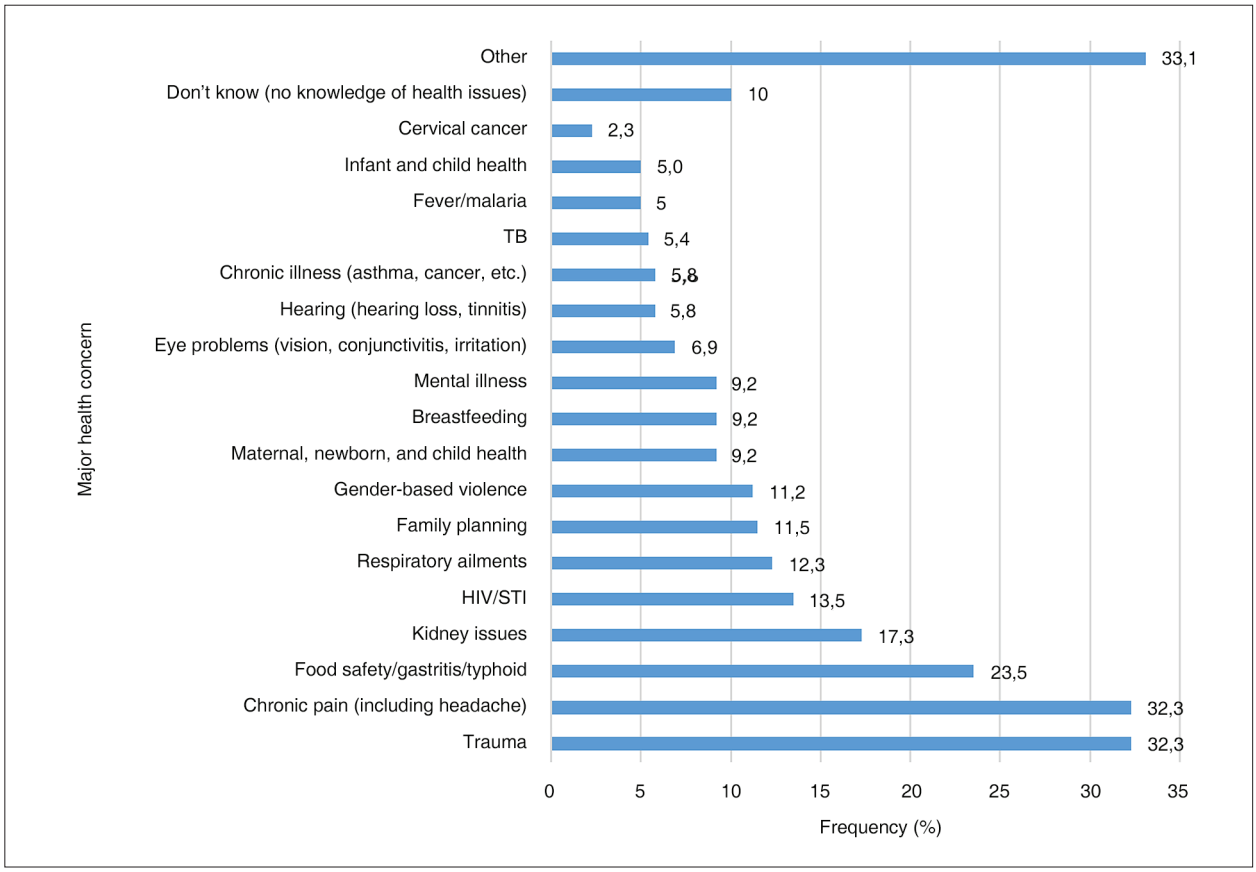

Figure 1. Major health concerns reported by the workers at HIP

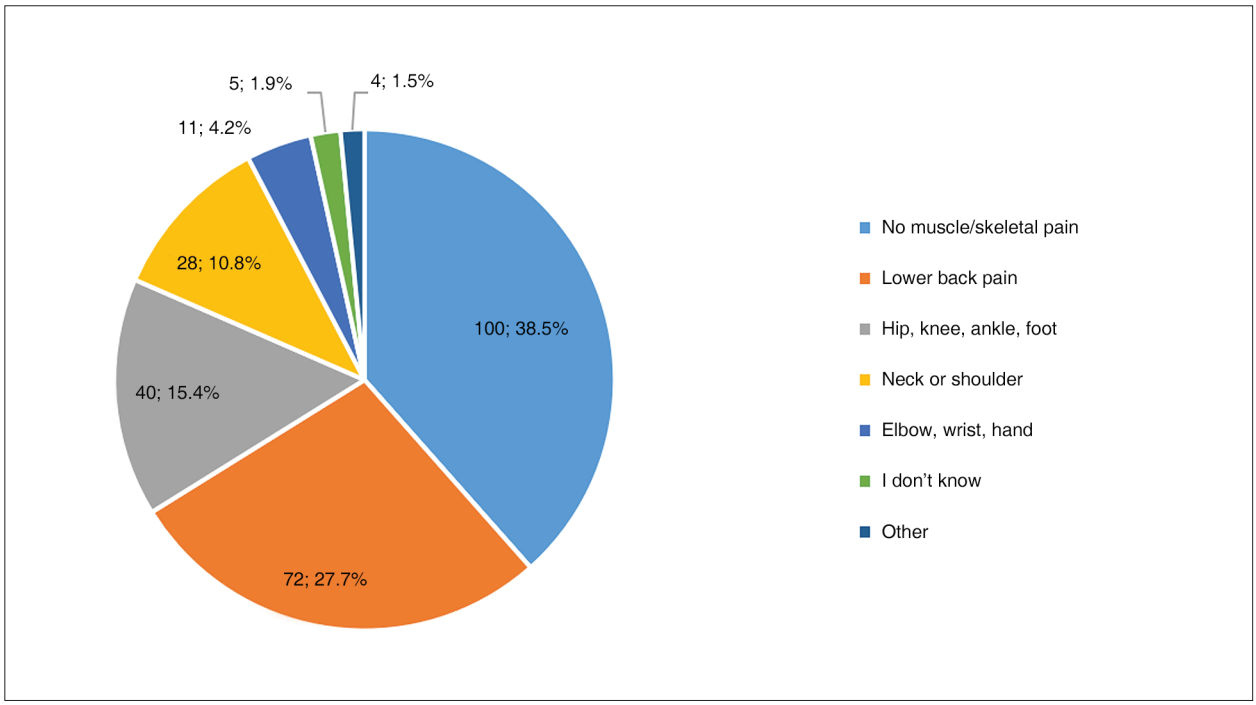

Figure 2. Distribution and frequency of musculoskeletal pain among workers at HIP

Workers' health problems and safety concerns

The five most frequently mentioned health concerns mentioned by the workers were trauma, chronic pain, food safety/gastritis/typhoid, kidney problems, and sexually transmitted infections (STIs), including HIV (Figure 1).

When asked about their current health status, more than half (n = 151, 58.1%) said that they were experiencing muscle or skeletal pain, which included lower back pain (n = 72, 27.7%), shoulder or neck pain (n = 28, 10.8%), hip, knee, ankle, and foot pain (n = 40, 15.4%), and elbow, wrist or hand pain (n = 11, 4.2%) (Figure 2).

More than half (n = 141, 54.2%) of respondents reported having headaches on a regular basis, and more than a quarter (n = 73) had headaches at least once a week. When asked about specific symptoms in the last 24 hours, 26.9% (n = 70) reported fatigue, 6.5% (n = 17) reported coughing, and 3.8% (n = 10) reported eye irritation. Reported injuries included physical injuries at work (n = 47, 18.1%), emotional or psychological injury (n = 35, 13.5%), and injuries due to denial of resources or access to services (n = 19, 7.3%). In the previous 12 months, 15.0% (n = 39) had suffered, on average, 2.5 physical injuries. Thirty-two percent (n = 83) had been absent from work for an average of 1.8 days (1–6 days) in the past month because of physical or mental illnesses.

Unwanted pregnancy was a common problem, as reported both in the FGDs and by informants working in public and private health facilities in the city. A female worker said, *"I personally know four women who got pregnant accidentally. They all left their jobs here at HIP and became commercial sex workers to support themselves and their babies."*

While we did not assess sexual harassment and violence within the Park, the topic was raised in the FGDs by workers and nurses, and by informants in the KIIs. Some workers complained of yelling by managers, and of having no recourse if they complained about the manager (rather, the worker was punished, or even fired). Workers and other stakeholders said the workers were treated poorly outside the Park. Violence against workers outside the Park was reported frequently, and security and police services in Hawassa were considered insufficiently responsive to protect the workers. Nearly 20% of workers asked to have better access to services to help them prevent or deal with sexual and gender-based violence.

During the FGDs, the workers complained that they were often denied permission to have a medical examination and were restricted from accessing the toilets and water. They also reported that employers refused them their stipulated medical sick leave, so that their salaries and allowances were reduced when they took time off due to illness or injury.

Many workers complained of exposure to extreme heat, chemicals and noise, and of frequently fainting in the workplace. They do not regularly use PPE such as masks, stating that these were uncomfortable and of poor quality, and that they had not been trained on how to use protective equipment.

During the FGDs, the workers described substantial concerns regarding the quality of the provided water and food, saying that food- and waterborne diseases are common among workers. According to the HIA, only two companies screen their food handlers for diseases.

Health service, safety and information needs of the workers

The study participants have a high demand for health services, screening and information, as well as for other amenities to improve their health. When asked what could improve the health of workers, 55.8% (n = 145) answered *'healthier food',* 32.3% (n = 84) said they needed soap for hand washing and 23.5% (n = 61) needed showers and bathrooms, nearly 40% (n = 96) answered *'sanitary pads'*, 32.3% (n = 84) responded that they needed *'basic health services',* and 28.5% (n = 74) answered *'higher wages'* (Figure 3).

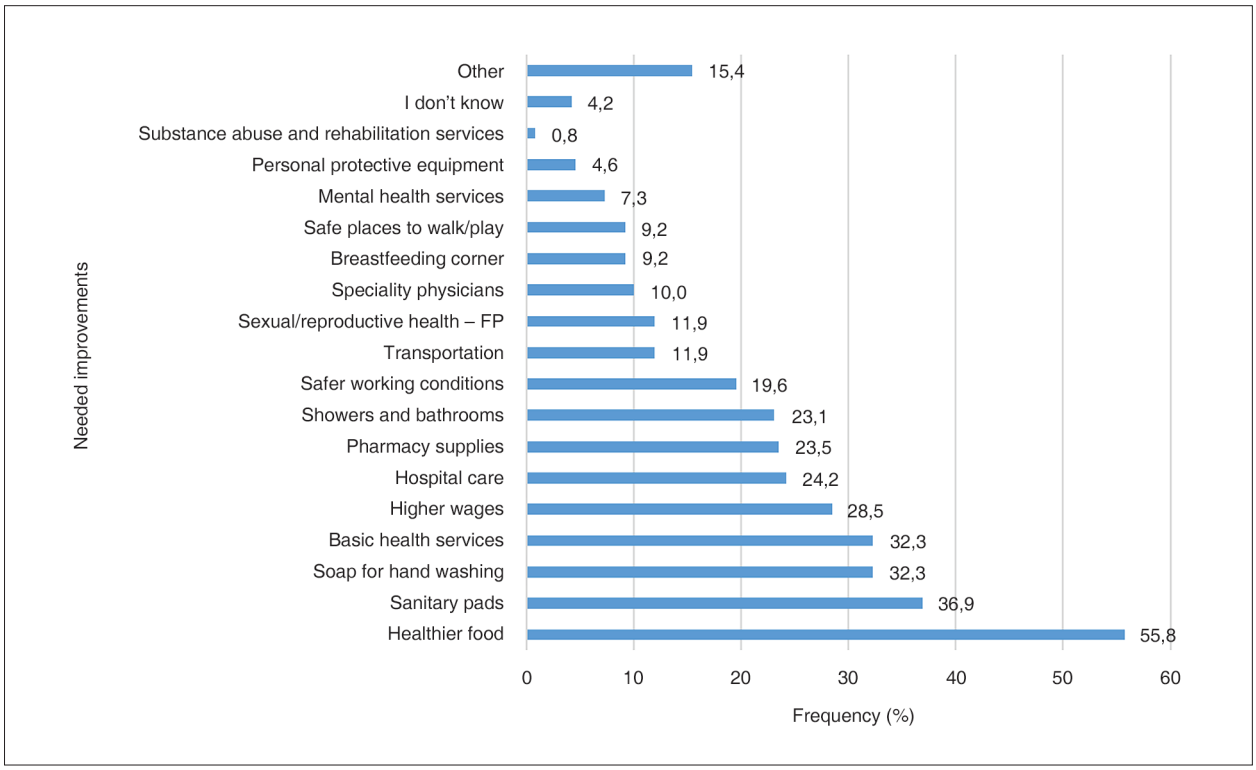

Figure 3. Changes that workers believed would improve their health at HIP

Table 2. Reported additional health service needs of the workers at HIP, March 2019

Additional services needed to be available	n	%
HIV/STI	120	46.2
Fever treatment ('flu, malaria)	94	36.2
Family planning	87	33.5
Pharmacy	85	32.7
Tuberculosis	78	30.0
Injury	72	27.7
Respiratory such as asthma, lung cancer	63	24.2
Hypertension/heart disease	51	19.6
Sexual and gender-based violence	45	17.3
Care of mothers	43	16.5
Breast feeding corner	43	16.5
Basic medical services (typhoid, diarrhoea, etc.)	37	14.2
Mental illness	35	13.5
Eye	31	11.9
Infant and child health	29	11.2
Diabetics	19	7.3
Laboratory services	45	17.3
Physical therapy	43	16.5
Unsure	25	9.6
Other	103	39.6

Table 3. Health information and education needs of workers at HIP, March 2019

Disease or problem	n	%
HIV	174	66.9
Malaria	106	40.8
Pregnancy	92	35.4
STIs	79	30.4
Nutrition	63	24.2
Cancer	58	22.3
Sexual/reproductive health	42	16.2
Breast cancer (self-exam)	42	16.2
Tuberculosis	41	15.8
Gender-based violence	36	13.8
Hypertension/blood pressure	35	13.5
Hygiene/sanitation	32	12.3
Heart disease	27	10.4
Disease outbreak	22	8.5
Dental	22	8.5
Vaccination/immunisation	21	8.1
Emergency preparedness	20	7.7
Exercise/physical activity	16	6.2
Mental health	16	6.2
Substance abuse	11	4.2
Genital mutilation	10	3.8
Infant care	10	3.8
Unsure	26	10.0
Other	30	11.5

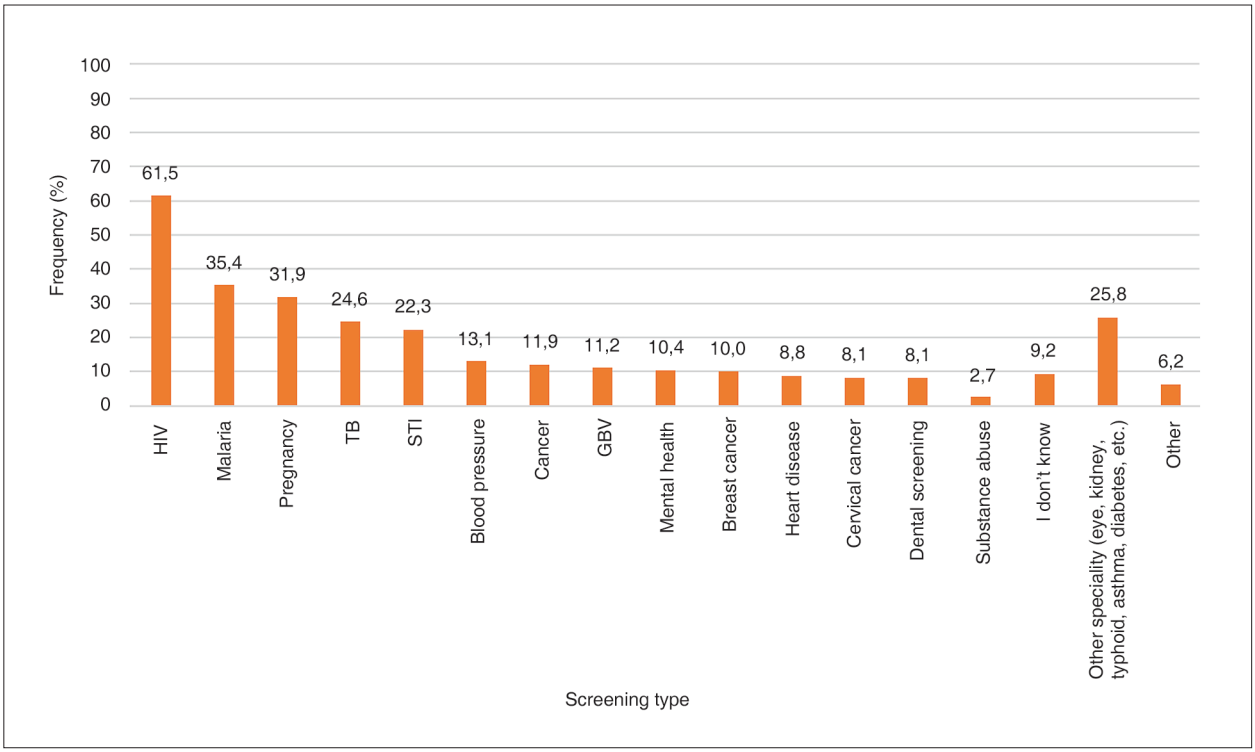

Figure 4. Health screening services that workers at HIP want

When asked what additional health services they would like to see offered in HIP, many workers asked for HIV/STI services, fever treatment, family planning, pharmacy access, tuberculosis testing and care, and injury care (Table 2). Many also asked for services for sexual and gender-based violence, and care of mothers.

Workers were also seeking health screening for many of the issues listed in Table 2 such as HIV (n = 160, 61.5%), malaria (n = 92, 35.4%), pregnancy (n = 83, 31.9%) and STIs (n = 58, 22.3%) (Figure 4).

When workers were asked what health information and education they needed, more than 66% (n = 174) replied '*information on HIV*'. Other common requests (from 25% or more or workers) were malaria, pregnancy and STIs (Table 3).

The workers have a low level of awareness of the types of services available in the Park. While more than 90% (n = 238) of the workers knew that services were available, only 60.4% (n = 157) claimed to know which services were offered. While about 29.2% (n = 76) knew they could get first aid and pain management, only 17.3% (n = 45) knew that the Park provided care for injuries.

Health services at HIP

The workers at HIP access health services from the nursing stations at the sheds; at Vision Medium Clinic, the private health facility within HIP; or from private or Government health facilities in the city. The study team did not get permission to inspect the nursing stations. The information was gathered from the FGDs with nurses and workers, and from the KIIs with factory human resource managers.

Each shed has a nursing station, with at least one clinical nurse always available, and is equipped with basic first-aid supplies. The nurses have no training in OSH, nor have they had first-aid training customised to the needs of the industry. During the FGDs, they reflected that the number of nurses is not proportionate to the workload and number of workers in each shed, and that the nurses are also assigned to other duties, such as resolving human resource issues. The nurses have received in-service training from international NGOs on gender-based violence and HIV prevention. Some nursing stations, however, are run by people who are not health professionals. The nursing stations are equipped with blood pressure monitors, thermometers, anti-pain drugs such as Panadol and hyoscine, anti-acids, 40% glucose solution, and IV fluids. The nurses generally allow tired workers to rest on the couches in the stations; check vital signs; provide anti-pain drugs such as Panadol; provide first aid for injuries; and refer workers to Vision Medium Clinic or to a hospital or clinic outside the Park, as needed. Generally, the nurses felt that the stations were not equipped to meet the workers' needs.

Vision Medium Clinic is licensed by the regulator in the RHB. It has a waiting area, laboratory, and dispensary rooms. The clinic is staffed by two full-time public health officers, three clinical nurses, two laboratory technicians, and additional part-time public officers, nurses and a general practitioner. It is open 24 hours a day, seven days a week. It provides outpatient and emergency inpatient care (four beds, with separation between men and women). There is capacity for cleaning, dressing and repairing minor wounds; providing family planning, counselling and modern family planning methods; and diagnosing and treating STIs, malaria, and intestinal parasites. The laboratory capacity is limited to performing blood cell counts, blood film tests, and sputum exams for tuberculosis; stool analysis and urinalysis; and rapid tests for syphilis and HIV.

The Clinic does not have imaging services. It does not provide antenatal care or labour and delivery services but does offer medical abortions. It has essential drugs such as analgesics and anti-malarial drugs, and drugs for use in medical abortions; 40% dextrose; lidocaine; and IV fluids. There are no condoms, injectables or implants for family planning, nor does the Clinic have an Ambu bag, oxygen or materials to splint or support fractured bones. There are no materials to support the promotion of healthy practices or the prevention of common OHS problems. The Clinic provides health services to the workers through service-level agreements with the companies at HIP, but only five of them have signed agreements with the Clinic.

The health services provided by the Clinic include pre-employment screening, first aid, triage of emergency cases, and referral of complicated cases to the nearby public health facility. The Clinic also performs periodic screening for typhoid, intestinal parasites, and hepatitis for food handlers working in two companies in the Park. The Clinic serves, on average, 10–15 patients daily. According to the clinicians, common reasons for visiting the Clinic are injuries, dyspepsia, and intestinal parasites; acute febrile illnesses; and urinary tract infections and STIs.

The workers said that healthcare services at Vision Medium Clinic were expensive, inadequate, and of questionable quality.

Financing of health services, and barriers to accessing healthcare

Interviews with HIA and HR managers, and FGDs with workers, revealed that there is no group insurance programme for workers, and that their employers pay for very little of their healthcare, except in the case of injuries incurred in the workplace. All services provided by the Vison Medium Clinic are paid for either by companies under contract or by the workers themselves. Only five companies have agreements with the Clinic; they pay 2 500 Ethiopian Birr per person per year, billed monthly. Other companies have agreements with private or public hospitals whereby they pay for their workers' healthcare, but we could not confirm that every company had such an agreement.

More than 62% of the workers (n = 163) responded that their inability to pay for health services was the major barrier to healthcare. In a worker FGD, one woman said she had to ask her family for money for a procedure in a public hospital and wait for the money before accessing care. The average wage of the workers is less than USD 2.00 per day, which is insufficient to cover their health needs. In addition, many workers in the FGDs claimed that they were not paid for days that they were sick, even with medical documentation from a public hospital. Their pay structure included 'attendance incentives', so taking a day off from work for healthcare could impact their pay, effectively increasing the cost of care.

Governance and regulations related to OSH

No single institution or organisation is responsible for ensuring the health and welfare of the workers at HIP. The IPDC, which owns HIP, is responsible for ensuring the safety and security of the Park, including responsibility for the fire brigade, ambulance, closed-circuit television monitoring for security, water and utilities, and physical maintenance of the premises. The IPDC has no responsibility for the actual provision of health services, aside from ensuring that health services are available in the Park. The package of services to be available, and at what cost to investors, is not defined in the IPDC's agreement with investors; it is only stated that there must be access to care 24 hours a day, seven days a week. The IPDC has outsourced the provision of health services in the Park to Vision Medium Clinic.

The EIC issues and implements policies and programmes to attract foreign investors into the country. The EIC collaborates with local

Government structures, hiring groups of workers and allocating them to factories as needed. The EIC 'screens' local unskilled and semi-skilled workers, checking only their level of education and physical fitness for the work in HIP. The EIC does not keep employee records beyond the recruitment process for local workers, making it difficult to measure worker turnover and employment rates at HIP. The EIC also receives grievances of workers and potential policy violations related to workers' rights, and brings these to the attention of the investor companies' managements. The EIC has developed human resource guidelines for industrial parks, aiming to guide investors in industrial parks to establish a uniform system to manage human resource issues in the parks in Ethiopia.[16]

The HIA represents the employers and coordinates the companies in HIP to deliver standardised and centralised services such as transport, medical services, meals, and training. However, early agreements among investors to consistently manage and provide these services are gradually breaking down, resulting in less coordination of benefits for workers, including health services, than originally envisioned.

The assessment team witnessed variation in conditions of workers across the different factories, including access to healthcare, fringe benefits, and other health and safety issues. There were also contrasting reports from the HIP management and the HIA, and from the workers and Bureau of Labour and Social Affairs, and the Confederation of Ethiopian Trade Unions. Each factory has a Worker Management Committee as a mechanism for workers to raise concerns. Although some employers believe that the Committees are a mechanism for workers to express their needs and concerns, the workers and other stakeholders do not see these Committees as playing a strong role in worker representation. At HIP there is no bipartite OSH committee composed of members from both the management and workers' groups, and registered by the BOLSA. There is also no trade union representing the workers in HIP, or safety officers. The Confederation of Ethiopian Trade Unions has found it difficult to organise workers in HIP and other industrial parks in the country.

According to Ethiopian labour law, the coordinated administration of labour law protections and OSH is the responsibility of the Ministry of Labour and Social Affairs, whose structure at the regional level is the BOLSA.[10] The country has a national OSH policy and strategy[17] and an OSH directive,[18] which set policy, strategy, and standards in implementing OSH. These documents include provisions to make workplaces conducive to the health of women, including pregnant women, and stipulate that prevention, control, care and support involving HIV/AIDS in the workplace be mainstreamed with OSH. However, the national directive on OSH has no provisions related to gender issues and psychosocial support in the workplace. The policy and strategy document outlines how stakeholders should ensure OSH, including employers and employers' associations, workers and workers' associations, institutes of higher education, social security and insurance companies, importers and distributors, and civic societies and professional associations, and their expected contributions to ensure OSH in the workplace.

The regional BOLSA has the authority but not sufficient capacity (human resources, systems, etc.) to regulate health and safety within the Park, and thus has played a minimal role, to date, in overseeing labour and OSH issues in HIP. The BOLSA has not invested to increase services or capacity in response to the influx of workers and new factories to the area.

The HIA believes that the Government lacks the capacity to audit and enforce standards related to OSH and labour law. However, as international buyers demand that companies meet international safety standards, the factories at HIP that are sourcing their products to international buyers are subjected to evaluation and inspection by international inspectors.

Health systems for OSH

The 1993 Health Policy of Ethiopia[19] states that emphasis will be given to the promotion of OSH in industries and the production sectors. The Health Sector Transformation Plan for 2015–2020, in its strengths, weaknesses, opportunities and threats (SWOT) analysis of the health sector strategy, identified the sector's weakness in implementing OSH.[20] Despite this, and its commitment to universal healthcare, it remains silent on how the health system will contribute to establishing or improving OHS in workplaces.

The Southern Nations, Nationalities, and Peoples' RHB oversees regional and municipal health services. The Hawassa city health office, which reports to the RHB, oversees, and manages clinics and small municipal hospitals in Hawassa. Both are responsible for providing preventive, promotive and curative health services, and for providing public health services to the population. Health services for HIV/AIDS, family planning, maternal and child health, gender-based violence, STIs, malaria, and tuberculosis are among the priority public health services that are provided to the population at no charge. However, there is no coordination between the HIP, the RHB, and the Hawassa City Health Department to make these services available at HIP. Moreover, as annual planning of the health delivery system in the city does not factor in the influx of workers into HIP, public health facilities are straining to provide services to the workers, most of whom are poor.

DISCUSSION

The nursing stations at the sheds and the private clinic at HIP do not meet the workers' expectations to competently deal with work-related injuries and primary healthcare needs. None of the health professionals in the nursing stations and the private clinic are trained in OSH, nor are they updated on the workers' priority health needs such as HIV testing and care, pregnancy testing and care, and family planning. Moreover, the private clinic in the Park, and clinics located in the city, are unaffordable, considering the workers' incomes. Very low wages, combined with the high costs of health and living, were frequently reported by international media outlets[12,13] and rights groups[6] as major causes of grim living conditions and recurrent worker strikes at HIP.

Forty percent of study participants reported having experienced work-related physical (18%), and/or emotional or psychological (14%) injuries. Cross-sectional studies conducted in textile or garment factories in other parts of Ethiopia have reported higher proportions (30–40%) of work-related injuries. [21-23]

The high proportion of participants who had experienced musculoskeletal pain and/or regular headaches, with the resultant high absenteeism rate, contributes to economic loss and reduced productivity in the Park. The ILO recognises that work-related injuries are a major cause of economic loss for companies, and that they reduce the global gross domestic product by up to 4%.[7]

Besides improved quality of food, availability of amenities for personal hygiene and sanitation (including access to clean water and clean bathrooms), and higher wages, the workers demanded

health services for HIV/AIDS, febrile illnesses, family planning and tuberculosis; injury care; pharmacies; and services to address sexual and gender-based violence. These are services that address major and priority public health problems in the health system in Ethiopia[19] and are delivered free of charge in Government health facilities. This high unmet need for essential primary healthcare is partly due to the weak collaborations and partnerships between stakeholders, including the management at HIP and the Ministry of Health. Additionally, the national directive on OSH does not pay attention to essential primary healthcare or to gender issues,[18] and the Health Sector Transformation Plan does not address OSH.[19] This absence of policies contributes to the lack of such services in the industrial park.

A recent global assessment of OSH in 49 countries found that OSH was fully or partly integrated with primary healthcare in only about 50% of them, with primary healthcare personnel providing OSH services, and OSH being a special unit within a primary healthcare unit in some countries.[24] In Ethiopia, manufacturing is fast expanding, providing jobs to hundreds of thousands of young employees. However, the health workforce in Ethiopia is not trained in OSH. To meet the high demand for primary healthcare among workers, the capacity of public health centres should be expanded to integrate OSH, or primary healthcare units should be established within the industrial parks.[25]

Experts in the field of OSH have identified the following obstacles to OSH in developing countries: lack of awareness and knowledge on the part of employers, managers, and health workers concerning workplace OHS; lack of adequate and effective inspection and supervision; and lack of active involvement of governments with employers and employees regarding the development and implementation of OSH standards.[26] Many of these obstacles contribute to the poor access to, and coverage of, OSH at HIP.

A recent OSH situation and needs assessment study in Ethiopia revealed that, despite the favourable policy and regulatory environment, OSH services are poorly organised and have limited capacity for exposure assessment and monitoring.[10] Also, the existing national directive, setting the requirements for workplaces to prevent work-related injuries and occupational diseases, may need updating to include prevention on psychosocial risk factors, as described by the World Health Organization (WHO).[27] Occupational safety and health legislative initiatives in developing countries are criticised for being gender-insensitive and fragmented across different government offices;[28] this is the case in Ethiopia and is experienced by workers at HIP.

The companies at HIP provide first-aid services and services for work-related injuries free of charge, and some of the companies have allocated limited financial assistance (2 500 Ethiopian Birr/year/employee) to cover workers' medical expenses. Sixty percent of the workers in this study identified lack of money as the reason for not seeking timely medical care at the private clinic in the Park, or in the city. The average monthly wage of workers in the garment industry in Ethiopia is significantly lower than that in Bangladesh, India, Myanmar, and Pakistan.[13] Financing OSH is primarily the responsibility of the employer. Countries employ different financing approaches that include direct financing by the employer, as observed at HIP, and employer-paid insurance premiums.[26] The companies operating at HIP are globally known in the garment industry for sourcing their readymade garments to global brands whose commitment and codes of conduct require compliance with national laws and other international labour standards.

The employers and the HIA are concerned about the vulnerability of workers and the quality of OSH at the Park, and they want to improve both. In the short term, a public-private partnership should be possible, whereby the investors and the IPDC share the costs of setting up a physical health facility (with the necessary furniture and space), and the RHB provides health professionals and medical supplies. In the long term, Ethiopia needs to guarantee financial protection for the workers, and establish comprehensive health services in line with the principles of universal health coverage. The country should explore a park-based insurance scheme that could be linked to existing national health insurance mechanisms.

The HIP is the flagship and largest industrial park in the country, specialising in producing exportable readymade apparel. It is designed to provide one-stop shopping for all Government sectors and expedite the entire business transaction process of the companies in the Park. However, the IPDC and EIC, apart from building a health facility, have not integrated OSH and welfare of workers into the Park management, which creates obstacles to enforcing labour and OSH laws in the Park. It is not uncommon for countries to postpone social investments, such as the protection of workers' health and the environment, until later in the industrialisation process, after wealth has been created.[29]

Instead of improving the health and welfare of the workers at HIP, the multinational companies appear to be exploiting Ethiopia's cheap labour and the weak enforcement of labour laws and OSH by the Government, which has a primary interest in attracting foreign direct investment. Although the multinational companies boast about their codes of conduct and certifications to ensure workers' rights in their supply chains, the findings related to working conditions, health and wages at HIP attest to the violation or lack of implementation of these codes and standards. Similar observations have been reported in other garment factories in Ethiopia that provide goods to global brands.[6]

The study had some limitations. For example, we were denied permission to observe the staff and equipment in the nursing stations. Two of the companies operating in the Park refused to participate, and only two company managers were available for KIIs. Nevertheless, we believe the findings remain valid because the information obtained was comprehensive.

Recommendations

Several recommendations come from the findings of this study. First, the nurse stations at the sheds should be appropriately equipped and their technical capacity enhanced to provide OSH services. Second, the HIP management and the HIA should collaborate with the city administration to establish access to free, Government-provided healthcare services related to HIV and STIs, family planning and GBV. Third, companies sourcing goods from factories at HIP should apply their codes of conduct and labour standards to improve OSH and wages of workers, and ensure protection of workers' rights. Fourth, coordination should be strengthened among the companies at HIP to pool funds for OSH to improve the financial protection of the workers and empower them to establish an OSH committee and a trade union, which can advocate for the implementation of nationally and internationally recognised labour rights. Last, support from international partners is urgently needed to build the capacity of the regulator (BOLSA), train professionals in delivering OSH, and increase workers' awareness about OSH.

In the long term, the Ministry of Health and the Ministry of Labour and Social Affairs, together with other stakeholders, need to identify models for delivering OSH and primary healthcare at industrial parks and other workplaces. With growing industrialisation, labour and OSH legislation need to be updated. Issues needing to be addressed include funding mechanisms for OSH; enhancing the scope of OSH to include psychosocial and gender-related issues; and providing a mechanism for pooling finances for OSH from employers and linking it to the national health insurance scheme. The Government and universities need to start training high-, mid-, and lower-level professionals in occupational safety and health – a responsibility that is described in the national directive to implement OSH in Ethiopia.

CONCLUSION

Workers at HIP, especially young women, have a multitude of OSH and other problems, including the need for essential primary healthcare services, gender issues, low wages, long working hours, and violation of their right to form a trade union and an OSH committee. The factories and the brands sourcing garments from HIP are not honouring and practising their codes of conduct or adhering to national and international labour standards. The national and regional Government authorities lack the capacity to ensure OSH, and other labour regulations at HIP are weak. The health system in the city does not have the capacity to accommodate the healthcare needs of the thousands of workers at HIP.

KEY MESSAGES

1. The garment industry is not well prepared to provide high-quality OSH and access to primary healthcare services to workers.
2. The Ethiopian Ministry of Labour and Social Affairs is not strong enough to enforce labour and OSH laws.
3. International companies and their buyers do not fully adhere to codes of conduct and international labour laws.
4. Companies at HIP are exploiting workers by paying the lowest wages compared to garment workers in Asia.

DECLARATION

The authors declare that this is their own work; all the sources used in this paper have been duly acknowledged and there are no conflicts of interest.

AUTHOR CONTRIBUTIONS

Conception and design of the study: AGYW, MEK, EAM, BK, MHT, MT, LT

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Interpretation of the data: AGYW, MEK, EAM, LT

Drafting of the paper: AGYW, MEK, EAM, DNT, TTZ, BK, MT, XZM, LT

Critical revision of the paper: AGYW, BK, MT, LT

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