Introduction Electronic assembly manufacturing has a working process which includes machine operation, assembly and fine work inspection of products with a microscope.

Objectives This study aimed to assess lighting intensity at workstations compared to the standards and the incidence of shoulder pain among electronic assembly workers.

Methods There were 167 electronic workers in one site of electronic manufacturing. The measurement of lighting intensity was performed with a lux meter at four types of job function, i.e. machine operation, assembly of parts, and two inspection types of moderate fine work and very fine products. The quarterly incidence of shoulder pain was calculated from monthly follow-up.

Results Insufficient lighting intensity was found in the highest proportion at the microscope station of lighting intensity zone 1 (eye-focusing zone) at >2,000–5,000

lux (81.12%), followed by the inspection with a monitor/profile projector (64.29%), and lighting intensity zone 1 at <1,000 lux (57.89%). The insufficient light was mostly identified within an arm's length of the worker (zone 2) and outside an arm's length (zone 3). The three-month incidence of shoulder pain was 85.3% and it was found that all workers had experienced shoulder pain at the four-month follow-up.

Conclusion This lighting intensity measurement method is suitable for identifying problems of the working environment of inspection stations, which is useful for further implementation. The high incidence of shoulder pain suggests that electronic assembly workers should be aware of the need to take frequently short breaks from eye-focusing work and stretch muscles for prevention of eye fatigue and shoulder pain.

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THE DIAGNOSTIC AND HEALTH SERVICE PROBLEMS OF DISTINGUISHING TB AND SILICOSIS CLINICALLY AND RADIOLOGICALLY AMONG EX-GOLD MINERS IN LESOTHO

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Background Between January 2017 and November 2018, 2678 former gold miners from South African mines were examined and sputum screened with GeneExpert at Mafeteng Occupational Health Service Centre in Lesotho. Mean duration since last exposure was 12 years. A high prevalence of silicosis (42.5%), HIV (30.7%) and tuberculosis (active TB 6.8%, history of past TB treatment 53.4%) was found. Of the TB cases, 54.7% were symptom screen negative (had no TB symptoms in WHO Guidelines), and 9.3% had normal chest x-rays. In total, 60% of the sample had lung features on x-ray read as either silicosis, silicotuberculosis, or tuberculosis. It was observed that many silicosis cases had been repeatedly treated for TB, and some even documented as MDR-TB, on the basis of x-ray alone, even when bacteriologic tests gave negative results.

Objectives To illustrate the challenges in diagnosing active TB in this setting, including distinguishing pulmonary TB (past and current) from pneumoconiosis (silicosis, CWP, asbestosis).

Methods Several cases will be discussed. For each case, a complete medical scenario is described, including occupational history, past and current medical history, physical examination, radiological and laboratory findings.

Results

The following were noted (1) Poor agreement between radiological findings and clinical presentation; (2) Poor agreement between radiographs suggestive of TB and positive GeneExpert sputum results; and (3) Similarity of clinical and radiological presentation of silicosis and tuberculosis.

Conclusion TB screening of former gold and other miners needs to take these diagnostic challenges into account. There should be systematic digital record keeping of chest x-rays. Records, including those from the mines, should be accessible to all healthcare providers who attend to former miners in the community. Training on occupational lung disease with emphasis on pneumoconiosis and TB is needed for all community healthcare providers.

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REGISTERED HEALTH PROBLEMS AND DEMOGRAPHIC PROFILE OF INTEGRATED TEXTILE FACTORY WORKERS IN ETHIOPIA: A CROSS-SECTIONAL STUDY

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Background Integrated textile and garment factories are growing in low and middle-income countries, where workers expose to workplace hazards. However, workers' health condition in the sector is inadequately investigated.

Objective This study describes the magnitude of registered health problems and associated work-related and personal factors among workers in integrated textile factories in Ethiopia.

Methods Institution-based cross-sectional study design was employed. A one-year recording of worker's clinical diagnoses (between March 2016 and February 2017) were gathered from the respective factory clinics of three integrated textile factories. Clinical diagnosis data on various diseases were obtained when factory workers visit the clinic for feeling unwell or ill. Sociodemographic characteristics and work-related information were obtained from the factory's human resource departments. Sociodemographics and clinical diagnosis statuses of 7992 workers were analyzed. The association between diagnoses and workplace factors (textile production, garment production and support process) and personal factors (age, gender and educational status) were studied using logistic regression analyses.

Results The average workers' age and years of service were 40 years and 11 years respectively. 4778 (60%) of workers, were female. 66% of the workers (n=5276) were diagnosed with one or more types of diseases among the 27,320 clinical diagnoses in total. This caused 16,993 working days absence due to sick leave. Respiratory diseases (34%) and musculoskeletal disorders (29%) were the most prevalent diagnoses; while injuries caused the highest number of days of work absence. Work department, gender and educational status were the variables that were statistically significantly associated with higher prevalence of disease groups.

Conclusions About two-thirds of the integrated textile factory workers were diagnosed with different types of diseases. The textile and garment production department workers were more affected than the support process workers, indicating that some diseases may be related to workplace exposure. Further study should investigate on rare chronic diseases such as