

## **Knowledge, attitude, and perception of risk management of steam boilers among workers in palm oil mills**

### **ABSTRACT**

**Background:** People who work with the steam boilers in palm oil mills are vulnerable to accidents, notably to explosions, whenever failures of any kind occur during their operation. **Objective:** This cross-sectional study was conducted in palm oil mills to determine the knowledge, attitude, and perception (KAP) concerning the risk management of steam boilers among workers in palm oil mills. **Methods:** A total of 50 workers who were working with steam boilers and/or involved in managing the operation of steam boilers with at least three years of working experience in the palm oil industry were purposively sampled. A self-administrated questionnaire consisting of four main parts - socio-demographic and occupational information, knowledge, attitude, and perception of the risk management of steam boilers was distributed. The knowledge, attitude, and perception were calculated based on a Likert-type scale. **Results:** This study found that 56% of boiler workers had a good level of knowledge (mean score =  $77.22 \pm 19.6$ ), 72% had a good attitude toward risk (mean score =  $83.17 \pm 5.85$ ), and 64% had a good perception of risk (mean score =  $79.50 \pm 11.22$ ). The prevalence of accidents was 16%, and, for near misses, it was 24%. The cause of the reported accidents was largely attributed to carelessness, specifically at 80%. Apart from that, there was a positive association ( $\chi^2 = 6.56$ ;  $p = 0.010$ ) between attitude and accidents. **Conclusion:** This study found that the workers had good KAP levels of risk management of steam boilers in palm oil mills. However, there is a need for the employers to revise the training of workers and ensure its effectiveness in heightening the awareness of risks and accidents despite the high level of KAP.

**Keyword:** Hazards; Occupational health; Prevalence; Training