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ADOPTING SHARED RESPONSIBILITY IN ACCIDENT PREVENTION AT A MINE IN ZIMBABWE THROUGH DEVELOPMENT AND ADOPTION OF SHE PACTSBlessing Garamumhango*. *Mimosa Mining Company, Zvishavane, Zimbabwe*

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Introduction The management of occupational safety and health requires a shared approach among team members to be effective. After experiencing a number of accidents, the safety, health and environment (SHE) cluster came up with an initiative of developing SHE pacts within teams at the mine. These pacts were binding and were based upon a shared vision and values for the team and were supported by a set of critical behaviours to address identified focal risks faced by the team.

Methods An external facilitator who is a specialist in behavioural based safety approaches was engaged to roll-out the program over a period of three months. The facilitator played a background role in the process letting the team members come up with their top five risks and the set of behaviours needed to address the risks and the values needed to sustain those behaviours overtime and the overall vision for the team. The SHE pact was signed off by all for commitment and accountability. The document was framed and put on the noticeboards of the team's work area with a photograph of all the team members and their signatures.

Result Acceptability of the SHE pact by the teams was high. The end points for usage within teams was defined by the number of stop and fixes carried out, the number of SHE related observations/inspections carried out by team members, commendations/rewards for SHE observations, near miss reporting statistics and supervisor inspections. There was a notable increase of these leading indicators after the adoption of the SHE pacts.

Discussion Behaviour based safety interventions are important to address the soft issues in SHE management. The focus on leading indicators is important in cultivating a culture of prevention within the workplace.

REFERENCE

Available on request

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HEALTH EVALUATION FOR OCCUPATIONAL HIGH-ALTITUDE EXPOSURE: RESULTS FROM A CHILEAN COPPER MINE DURING 2016^{1,2}Méndez José. ¹Codelco Chile, División Andina, Los Andes, Chile; ²Society of Occupational Medicine of Chile, Santiago, Chile

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Introduction Since 2013 in Chile a specific occupational evaluation, determined by Ministry of Health, is required to work in high altitude (defined as 3000 to 5500 metres above sea level). The aim of this study was to describe the results of health evaluation for high-altitude work in a Chilean copper mine during year 2016.

Methods Health evaluations performed during 2016 in Andina Division of Codelco, the Chilean Public Mining Company, were analysed. All medical contraindications for high-altitude work were checked and classified into categories. Time to recover medical aptitude for work was calculated.

Results From 1542 workers exposed to high altitude work, 1483 underwent medical evaluation according to Chilean regulation during 2016. This evaluation included: medical history, modified Lake-Louise questionnaire, EKG, chest X-rays and blood tests (haemoglobin, plasmatic creatinine, lipid panel and glucose level). 29 workers (1.96% of all evaluated) had a permanent contraindication for working at high altitude: 15 of them due to cardiologic conditions (ischaemic heart disease mainly); 6 of them due to unstable diabetes mellitus; 3 of them had respiratory diseases (COPD) and the other 5 had other specific conditions (chronic liver disease, stroke with motor impairment, refractory epilepsy, severe psychiatric disorder and polycythemia vera). These workers were relocated in middle or low-altitude positions. 167 workers (11.26% of all evaluated) had a temporary contraindication for high-altitude work. The average duration of the working restriction was 11 days until the condition was treated. 143 (86%) were cardiovascular and metabolic conditions: high blood pressure, hyperglycemia, severe obesity and dyslipidemia. 13 workers (0.88%) had high levels of haemoglobin and underwent specific additional exams to find secondary causes. Only 2 of them were diagnosed as Occupational Polycythemia, which is one of the three high-altitude related occupational diseases recognised by Chilean law.

Discussion High-altitude Occupational Polycythemia prevalence was 0.1% in our Company, which is lower than other series. This might be explained because of the type of work-shifts that allow workers to sleep everyday under 1000 metres above sea level. Cardiovascular and metabolic conditions were the most frequent causes of contraindication to work, which is explained by the high prevalence of chronic diseases and cardiovascular risk factors in Chilean population.

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RESPIRATORY IMPAIRMENT AND PERSONAL RESPIRABLE DUST EXPOSURE LEVELS AMONG MINERS IN A GOLD MINE-TANZANIAMatilda Rusibamayila*, Simon Mamuya. *Muhimbili University of Health and Allied Sciences, Dar-es-Salaam, Tanzania*

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Introduction Mining is one of the most hazardous sectors to work in because it is a sector that predisposes workers to various hazards including dust. Exposure to dust in the mines is inevitable because the whole process of extracting gold has to involve rock breaking. This dust can penetrate up to the alveoli of the pulmonary system and cause respiratory impairment.

Methods Cross-sectional study design was used employing use of questionnaires for data collection on respiratory symptoms. Lung functions were measured using spirometry. Personal respirable dust exposure was collected from similar exposure groups using air sampling pumps. A simple random sampling technique was used to select participants. 112 workers were included in the study. Data analysis was done using SPSS computer software version 16.0.

Results The overall Geometric Mean of respirable dust was 0.26 mg/m³ (GSD=0.32) over a mean sampling time of 8 hours (with a range between 7–11 hours). The GM for underground and open pit were 0.41 mg/m³ (GSD=0.28) and 0.17 mg/m³ (GSD=0.23) respectively. For underground, the