

hours; conditions of service and employment; equality and empowerment of women; disadvantaged sections of the society; social security. Each category was analysed using the search engine 'occupational safety and health' or 'occupational health and safety'. The Labour Rules under Labour Act were excluded as those are varied state to state. Since the study used data available in public domain and no human participants were involved it did not require ethics committee approval.

**Results** After extraction and analysis of all documents it was identified that the comprehensive safety and health statutes for regulating OSH at work places exist only in respect of the four sectors: the Factories Act, 1948; the Mines Act, 1952; Dock Workers Act, 1986; the Building and Other Construction Workers Act, 1996. There is no separate entity of legislation under the framework of OSH.

**Discussion** Although it is enshrined in the Constitution and the Legislature of India, the traditional concepts of OSH prevailing in the country is a far cry from the objectives of the ILO and international standards for OSH. Being a signatory participant for Convention 187 India has to comply with OSH in near future.

879 **RISKS AND MANAGEMENT OF AIRBORNE MERCURY LEVELS AT ARTISANAL GOLD PROCESSING SHOPS IN THE PERUVIAN AMAZON**

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Gold mining using the mercury amalgamation process continues to present serious community and occupational exposure problems throughout the world. It is now estimated that 30% of all processed gold is produced using mercury amalgamation with over 10 million people involved in artisanal and small scale gold mining. In Peru there has been a 400% increase in the ASGM activities and is ranked 5th in worldwide gold production. It is estimated that one out of 28 people in Peru are associated with artisanal gold mining with Madre de Dios, an Amazonian State in Peru, accounting for 70% of mined gold. worker paper presents the results of mercury vapour area air sampling during the amalgam burning processing step where Hg/Au amalgam is heated and the mercury driven off as a vapour phase. Small-scale artisanal gold miners often do not have the equipment to burn off the mercury from the amalgam and resort to local shops for this service. These *Compra de Oro* shops can be found in villages along the Inter-oceanic Highway traversing Madre de Dios. A total of 16 Gold Shops were sampled in 5 villages along the Inter-oceanic Highway in Madre de Dios. In almost all cases, the worker exposure levels exceeded internationally accepted health standards. Results of workplace sampling will be presented as well as a discussion of efforts and challenges in managing occupational health risks in small-scale artisanal enterprises in low and middle-income countries.

894 **THE ANALYSIS OF HEALTH ASSISTANCE FOR PREVENTION OF MENTAL AND PHYSICAL DISORDERS OF THE EMPLOYEES DISPATCHED TO MEDICALLY INSUFFICIENT COUNTRIES**

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**Introduction** Doing EPC business at developing countries often confronts the health gap, so we understand it with an urgent problem that how the occupational health staffs should support the health of the employees working overseas. Fortunately we could analyse our experiences and draw methodology for this problem solution. We herein report our ideas.

**Methods** Health education, medical checkup including mental health examination, establishing medical overseas conveyance route with the help of assistance service are the basic techniques, besides that, we conduct medical patrol as an internal occupational health team in order to acquire the latest medical information through local medical institution and embassy doctor visit. We deliver unique health information leaflets including the mental health precaution digitally every month.

**Result** Joint medical patrol with the outside medical assistance company was useful for knowing and decreasing the hygiene, health gap. Through the original communication news which is delivering periodically as healthcare information to all employees outside, we are grading up the mental self-care power of workers. And assigning occupational health doctor periodically to the sites has got us the excellent reputation for original health assistance.

**Discussion** As much as work location is developing countries, the health gap leads to uneasiness. So the determination of urgent overseas medical conveyance route is indispensable to EPC business in risk management. The combination patrol investigation tied-up with the medical assistance company is important component of effective solutions for decreasing the uneasiness. To improve medical gap, besides local patrol visit by the occupational health staffs, newly-devised original health information of ours which delivered through digital communication technology is a unique technique to improve each person's self-care (resilience) power. Our original designed health care system so far obtained good evaluation and definitely leads to the precaution of employees' mental and physical disorders.

94 **OCCUPATIONAL HEALTH MONITORING – AUTOMATION OF THE RISK BASED OCCUPATIONAL HEALTH MEDICAL SURVEILLANCE PROGRAMME**

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**Introduction** Employees are exposed to occupational health hazards and are in need of medical surveillance to prevent ill health. Organisations carry out health risk assessments and these help anticipate the presence of health hazards. Hygiene surveys then confirm their presence and magnitude.

Depending on the level of exposure, there is need to monitor and ensure adequacy of control measures in preventing ill health. This is done through medical surveillance programmes. It is not practical for Line Managers to memorise these programmes and comply with requirements. As a result, an automated web based system was developed to manage this.

**Methods** A system was developed to manage occupational health in a company with 120 employees. Consultations were done in the following departments to confirm occupational health roles and responsibilities: HR, SHEQ and Occupational Medicine. These departments had specific functions defined in the system.

**Results** 100% of employees were covered in the medical surveillance programmes and all were monitored on time. The system automatically tracked compliance of each employee and sent reminders to the employee, line manager or both at a predefined time. Medical records were kept for ever as compared to a defined number of years. Reports were automatically generated for the various user groups. None compliance was escalated automatically to senior management. Doctors had access to soft copy medical history, relevant records and occupational hazards per patient.

**Conclusion** The database was named OcHSol, meaning Occupational Health Solution. This system comprehensively manages occupational health. When using this system, employees are no longer missed for risk based medical surveillance. The database manages pre-employment, periodic, pre-placement, post incident and exit medical examinations.

#### 945 INFLUENCE OF INDUSTRIAL SAFETY SHOE CHARACTERISTICS ON POSTURAL STABILITY

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**Introduction** Working conditions, such as walking and standing on hard surfaces, can increase the development of musculoskeletal complaints. At the interface between flooring and musculoskeletal system, safety shoes may play an important role in the well-being of employees. Slip, Trip and fall accidents in the industrial setting range from trivial falls to life-threatening fatalities and injuries which could be as a compromised of postural stability. Safety shoe has different characteristic features but in what way these characteristics interact with each other and influence postural stability is uncertain. The study elucidates the influence of industrial safety shoes characteristic on different stabilometric dimensions that are the indicators of postural stability. The purpose of the current study effect is to explore the contribution of specific characteristics of safety shoe used in industries along with the individual characteristics in Static and dynamic postural conditions.

**Methods** Twenty-five male subjects performed the task of standing and walking on the piezoelectric force platform (Kistler, Switzerland, model 9268AA) with industrial safety footwear and centre of pressure displacements parameters were investigated as measures of postural stability.

**Results** Multiple ANOVA results showed the significant influence of shoe characteristics (toe cap, sole of shoe, weight of the shoe and ankle type) and their interaction on the centre of pressure displacement determinants.

**Conclusion** The role of individual characteristics preponderate the impact of safety shoe characteristics on postural stability. This work gives a valuable insight to consideration of footwear characteristics for manufacturers and employers to put a check on Slip, Trip and Fall injuries which can improve the productive life of labour with more work efficiency.

#### 97 HEALTH PROBLEM OF INDIAN FARMERS DUE TO EXCESSIVE HEAT EXPOSURE AND PREVENTIVE MEASURES

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**Introduction** India is primarily an agrarian economy as farming is one of the most important occupations in country. However numbers of studies have classified farming as a risky and hazardous job because of the nature of farm work. Farm workers are particularly at higher risk of developing health problems. The drastic change in the world wide climate has created too much problems among farmers. Most of farm operations in India are still accomplished manually under direct sunshine. These entire factors, makes farm operation quite dangerous. The exposure to hot occupational environment remains a persistent impediment to improve productivity and problems affecting health. Health problems that result from heat stress are known as heat disorders.

**Methods** The study was undertaken to find out the health problems experienced by farmers and to design, develop and disseminate PPE to safe guard farmers from the impact of excessive heat.

**Results** It was revealed that majority of farmers were working for more than 7 hours in squatting and bending position under direct sunshine which was promoting heat disorders resulting from heavy physical work leading to loss of fluid and salt resulting in heat cramp, heat exhaustion, etc.,. Prevalence of above factors is more common among farmers due to unawareness and lack of knowledge about associated heat exposure risks, leading to poor adaption of preventive and protective measures. Further, incidence of MSDs among the farmers was reported by majority. The long working hours and posture adopted resulted more in body pain/discomfort. While disseminating the PPE, the acceptability among the farm workers was reported to be very high.

**Conclusion** The pace with which global average temperature is rising, there arise a need to protect the outdoor workers from heat-related illnesses. Creating awareness and developing of PPE to safeguard has now become a matter of concern worldwide.

#### 976 PROFILE OF ILLNESS AMONG WORKERS OF A UNIVERSITY CAMPUS IN THE STATE OF SÃO PAULO: ANALYSIS OF ILLNESS-RELATED ABSENTEEISM

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**Introduction** Brazilian public institutions have been passing through changes since the 90 s. These changes have included new management and work organisation methods that entail