Jinky Leilanie Lu, Occup Med Health Aff 2017, 5:3 (Suppl)
DOI: 10.4172/2329-6879-C1-034

Ergonomic hazards and injuries among small scale miners in the Philippines

Jinky Leilanie Lu
University of the Philippines Manila, Philippines

Statement of the Problem: Worldwide, small-scale mining (SSM) provides employment to about 13 million people and a ects the livelihood of 80-100 million.

Methods: is study investigated the ergonomic and safety hazards of small-scale miners in one of the largest small-scale mining area in the Philippines which is the area of Itogon, Benguet. ere were 93 small-scale miners who were included in the study as they complied with the inclusion criteria. e methods consisted of survey questionnaires, health physical examination guide, individual interviews, and work process observation tool.

Results: e results showed that the small-scale miners worked for an average of 10.7 years, and a maximum work year of 40. e most widely employed mining technique was the dog-hole mining consisting of several sub-processes-tunneling, ball milling and gravity concentration, cyanide leaching, and smelting. e ergonomic and safety hazards identi ed were noise exposure from the dynamite blast, temperature extremes, and exposure to dust from dynamite blasting. e miners experienced prolonged crouching and bending, prolonged handling of tools, and carrying heavy sacks lled with mineral ores. ere were no standard work protection and safety measures followed by the miners. ey resorted to improvised protective equipment such as wearing of sleeveless shirts and drinking water for temperature extremes, distancing themselves from the mining blasts during dynamite blasting, and intermittently used carts with manual handling in the transport of ores packed in sacks. In the ball milling and gravity concentration process, machine-related accidents were noted such as experiencing cuts from the crusher. In the cyanide leaching which uses massive amounts of cyanide, t most prevalent hazards were heat, dust, and chemicals such as cyanide fumes. In the smelting process, smoke from burning ore a coal as well as exposure to borax and nitric acid fumes. Burn injuries were reported among miners. A third (31.2%) of miners have experienced accidents. e most common injury was laceration at 47.8%, followed by methane inhalation, fracture of hand digits, and contusion at 17.4%. e most prevalent health symptom reported by the miners was muscle pain which points to exposure to ergonomic hazards and risks.

Conclusion & Signi cance: It is suggested that intervention programs for ergonomics and safety measures be implemented by the local government, and health and safety nets be provided for the small-scale miners in Itogon, Benguet.

Biography

Jinky Leilanie Lu holds a Master Degree of Occupational Health and Ph.D, and a Research Professor of the National Institutes of Health, University of the Philippines Manila with the Institute of Health Policy and Development Studies. She has authored two books, Gender, Information Technology, and Health which won the National Academy of Science and Technology book award in 2010, and reprinted by the University of Hawaii Press, 2007, and Basics of Occupational Health and Safety: Guidebook for Practitioners and Industries. She has produced 51 journal articles, and 28 of which are science citation indexed. She has also contributed a chapter in the Handbook of Anthropometry Physical Measures of Human Form in Health and Disease, published by Springer in 2012. She is a staunch Advocate, both as an engaged Academic and Scientist, in promoting epidemiology of occupational health and safety.

jinky_lu@yahoo.com

Notes: