Non-Communicable Disease Risk Factors among a cohort of mine workers in Mongolia

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Abstract

Aim.

Prevalence of non-communicable diseases (NCD) are growing among working populations globally. The World Health Organization (WHO) estimates NCD are responsible for 80% of all premature deaths (Lancet, 2016). The purpose of this study is to determine baseline level of NCD and risk factors among mine workers and to identify intervention strategies based on results. The collected results will be compared with a NCD study on the general population of Mongolia.

Method.

A cross sectional design was used for this study. 684 employees were randomly recruited to the study. We utilised WHO questionnaire to collect anthropogenic measurements, health behaviours, alcohol consumption, smoking, NCD and work related information. The study focused on four (4) key risk factors of hypertension, obesity, drinking habits and smoking habits. These factors are key contributors to NCD and decreased life expectancy.

Results.

Results of the study showed prevalence's of hypertension 12.9%, obesity 64.1%, alcohol users 22.1% and smokers 38.8%. The general population prevalence's are 27.5%, 56.8%, 15.5% and 24.8% respectively.

Differences between gender in the study cohort for smoking rate (men = 43.3%, women = 8.9%), alcohol consumption (men = 29.9%, women = 16.1%) and central obesity (men = 78.3%, women = 35.1%) were statistically significant ($p<0.05$).

Conclusion.

Prevalence of arterial hypertension for the mine worker cohort was lower than general population, however, obesity, drinking and smoking rates were higher. The study findings allow us to target intervention strategies to mitigate the risk of NCD development in the future.

Keywords: Non-communicable diseases, Mongolia, Mine workers, Risk factors

Recent Publications (minimum 5)

1. McCarthy, A, Damiran, N. Non-communicable disease risk factors among a cohort of mine workers in Mongolia. Journal of Occupational and Environmental Medicine, 2019;61:12:1072-1077

2. Priority actions for the non-communicable disease crisis. Beaglehole, R; Bonita, R; Horton, R; Adams, C; Alleyne, G; Asaria, P; Baugh, V; Bekedam, H; Billo, N; Casswell, S; Cecchini, M; Colagiura, R; Colaguri, S; Collins, T; Ebrahim, S; Engelgau, M; Gale, G; Gaziano, T; Geneau, R; Haines, A; Hospedales, J; Jha, P; Keeling, A; Leeder, S; Lincoln, P; McKee, M; Mackay, J; Magnussen, R; Moodie, R; Mwatsama, M; Nishtar, S; Norrving, B; Patterson, D; Piot, P; Ralston, J; Mani, S; Reddy, K; Sassi, F; Sheron, N; Stuckler, D; Torode, J; Varghese, C; Watt, J. The Lancet, 2011;377:9775:1438-1447

3. Chimeddamba O, Peeters A,Walls HL, Joyce C. Non communicable disease prevention and control in Mongolia: a policy review. Int J Integr Care. 2015; 15-660.

4. The economic burden of physical inactivity: a global analysis of major non-communicable disease. Ding, D. Lawson, KD. Kolbe-Alexander, TL. Finklestein, EA. Katzmarzyk, PT. Van Mechelon, W. Pratt, M. The Lancet Physical Activity Series 2 Executive Committee. The Lancet, 2016, 388;1311:1324.

5. Public Health Institute of the Ministry of Health and Sports. Third National STEPS Survey on the Prevalence of Communicable Disease and Injury Risk Factors. Ulaanbaatar; 2013.

6. Mindell J, Hansell A, Morrison D, Douglas M, Joffe M. What do we need for robust, quantitative health impact assessment? J Public Health Med. 2001;23:173–178.



Biography

Andy McCarthy, MSc, MPH, MAIOH, COH is an AIOH Full Member and Certified Occupational Hygienist with 15 years experience in the fields of consulting, mining and oil and gas. Andy holds a Graduate Certificate Occupational Hygiene (University of Wollongong), a Graduate Diploma OHS (Edith Cowan University), a Master of Science (Edith Cowan University), a Master of Public Health (National University of Medical Science) and is currently working towards a PhD in Public Health (Edith Cowan University). Andy works for Rio Tinto as Practice Lead Industrial Hygiene and is based in Salt Lake City.

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Notes/Comments: