

Reliability of the radiological classification of Asbestos Related Disease by two medical panels in Southern Africa

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Background: The diagnosis of asbestos related diseases (ARD) in Zimbabwe is based on the assessment and classification of chest radiographs by a panel of doctors, the Medical Bureau (MB). X-rays are classified according to the ILO classification of radiographs of pneumoconiosis, by consensus or majority vote.

The objective: To assess the agreement between the MB and the Specialist Occupational Medical Panel (SOMP) of Asbestos Relief Trust (ART) on the classification of chest radiographs for ARD.

Methods: An inter-rater agreement and reliability study comparing the assessment of x-rays submitted to the National Social Security Authority (NSSA) for surveillance of pneumoconiosis. Parenchymal profusion was dichotomized to $\geq 1/0$ (yes) vs $\leq 0/1$ (no) for the presence of ARD. Pleural changes were dichotomized into yes/no, where "yes" meant

presence of pleural changes consistent with ARD.

Results and discussion: There were no significant differences in the proportions of x-rays with parenchymal ARD; Medical Bureau reporting 3.2% (n=4) and the SOMP reporting 4.7% (n=6) of the 126 x-rays. On the dichotomized outcome on parenchymal profusion scores, the agreement was less than that expected by chance alone, with kappa statistic of -0.04 (95% CI From -0.07 to -0.01). Pleural abnormalities were reported in 13.5% (n=17) of the x-rays by the SOMP; no pleural abnormalities were reported by the Medical Bureau.

Conclusion: Poor agreement was observed between the two rating panels. Strengthening of the radiological assessment of ARD in Zimbabwe through training and quality assurance processes is recommended.