Introduction

Risks of asbestos-related disease among servicemen in the military (e.g., navy) have seldom, if ever, been studied in Asia. Also, exposure to asbestos in closed workplaces such as engine rooms in vessels should be looked into.

Critical appraisal

In a historical cohort study of navy personnel of Norway, standardized incidence ratios (SIR) were calculated for malignant mesothelioma, lung cancer, and laryngeal, pharyngeal, stomach, and colorectal cancers. The authors found an overall increase (65%) in mesothelioma confined to marine engine crews, a modestly elevated risk for lung cancer, but no risks for other cancers. Authored by UOEH researchers.

Abstract

Introduction: This study focus on the incidence of asbestos-related cancers among 28,300 officers and enlisted servicemen in the Royal Norwegian Navy. Until 1987, asbestos aboard the vessels potentially caused exposure to 11,500 crew members.

Methods: Standardized incidence ratios (SIR) were calculated for malignant mesothelioma, lung cancer, and laryngeal, pharyngeal, stomach, and colorectal cancers according to service aboard between 1950 and 1987 and in other Navy personnel.

Results: Increased risk of mesothelioma was seen among engine room crews, with SIRs of 6.23 (95% CI = 2.51-12.8) and 6.49 (95% CI = 2.11-15.1) for personnel who served less than 2 years and those with longer service, respectively. Lung cancer was nearly 20% higher than expected among both engine crews and non-engine crews. An excess of colorectal cancer bordering on statistical significance was seen among non-engine crews (SIR = 1.14; 95% CI = 0.98-1.32). Land-based personnel and personnel who served aboard after 1987 had lower lung cancer incidence than expected (SIR = 0.77; 95% CI = 0.64-0.92). No elevated risk of laryngeal, pharyngeal, or stomach cancers was seen.

Conclusion: The overall increase (65%) in mesothelioma among military Navy servicemen was confined to marine engine crews only. The mesothelioma incidence can be taken as an indicator of the presence or absence of asbestos exposure, but it offered no consistent explanation to the variation in incidence of other asbestos-related cancers.
Fact 1
In a historical cohort study of navy personnel of Norway, the standardized incidence ratio (SIR) of mesothelioma was 3.00 (1.44-5.51) for personnel who served aboard more than 2 years.

Fact 2
The standardized incidence ratio (SIR) of lung cancer was 1.24 (1.03-1.50) for personnel who served aboard more than 2 years.

Fact 3
Engine room service was associated with a six-fold increase in mesothelioma for both the shorter (less than 2 years) and longer service (2 years or more) duration categories (SIR = 6.23; 2.51-12.8 and SIR = 6.49; 2.11-15.2, respectively).

Fact 4
A 7-fold relative risk of mesothelioma was observed in personnel who served in the engine room, compared with personnel who served aboard but never in the engine room.

Fact 5
22 cases of malignant mesothelioma were all located in the pleura between 1983 and 2007 in Norwegian Navy personnel.