Assessment of Asbestos Preferences in Kenya and Associated Health Risks with Proposed Mitigation Strategies

Karanja EW[1], Bosire GO[2], Abong'o DA[2]
[1,2]University of Nairobi, Faculty of Science & Technology, Department of Chemistry.

Background

1. Introduction

- Previously valued for its heat resistance and strength.
- Inhalation of asbestos fibers leads to severe health issues such as lung cancer.
- Asbestos is still present in Kenyan industries with limited research on exposure levels, health impacts, and control measures.
- This study aims to evaluate associated risks and propose effective mitigation strategies considering environmental influences on its spread and toxicity.

2. Problem statement

- Asbestos-related health risks, due to its continued use, coupled with weak policy, limited research, and data gaps poses a significant public health concern:
- The absence of a national asbestos management policy has resulted in poor control of exposure and a lack of coordinated mitigation efforts.
- Respiratory illnesses potentially linked to asbestos exposure are rising.

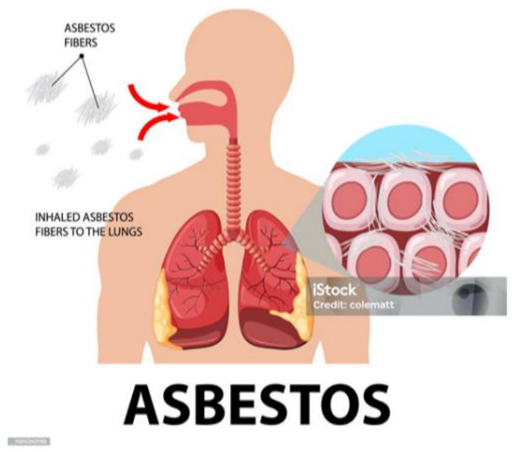

Fig. 1 Inhaled asbestos in the lungs.

Current Work

1. Objectives

- Map the distribution and extent of asbestos and identify high-risk exposure areas.
- Assess health risks associated with asbestos through hospital data, community surveys, and occupational assessments.
- Analyze the behavior and toxicity of asbestos under varying environmental conditions, including its airborne dispersion through particulate matter.

2. Methodology

Mixed-methods approach will be used, combining quantitative and qualitative data collection techniques:

- Hospital Records Review
- Community Health Survey
- Occupational Health Survey
- Environmental Sampling
- Air Quality & PM study

Fig. 2 Asbestos roofing

3. EXPECTED OUTCOMES

This study is expected to yield the following outcomes:

- Comprehensive mapping of asbestos, identifying high-risk regions.
- Quantitative data on the prevalence of asbestos-related diseases (e.g., mesothelioma, lung cancer, asbestosis)
- Insight into public awareness levels regarding asbestos risks.
- Chemical and environmental analysis of asbestos fibers.
- Air quality data revealing the concentration and dispersion patterns.

Fig. 3 Asbestos brake pads in vehicles

Conclusion & Expectations

- This study aims to bridge critical knowledge gaps on asbestos exposure in Kenya
- Contribute to informed decision-making for public health and environmental safety.
- The study aims to fill knowledge gaps on asbestos exposure in Kenya.
- Findings will guide national policies and improve public health protection.
- Communities will benefit from increased awareness and risk mitigation.

wanjirukaranja002@gmail.com