SITUATIONAL ANALYSIS OF *LEGIONELLA PNEUMOPHILA* AND SOME PHYSICAL AND CHEMICAL PROPERTIES OF COOLING TOWER WATERS IN SELECTED HOSPITALS AND TOURIST HOTELS

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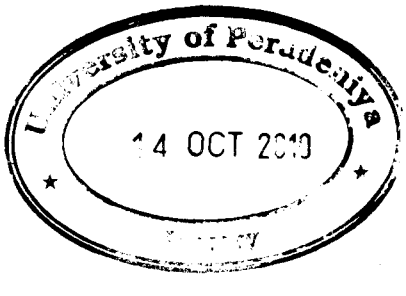

Abstract

SITUATIONAL ANALYSIS OF *LEGIONELLA PNEUMOPHILA* AND SOME PHYSICAL AND CHEMICAL PROPERTIES OF COOLING TOWER WATERS IN SELECTED HOSPITALS AND TOURIST HOTELS

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Legionella pneumophila, the causative agent of Legionnaires' Disease is known to colonize and frequently grow in cooling tower waters. The disease is acquired by inhaling aerosols contaminated by Legionellae. Determination of *Legionella pneumophila* in cooling tower water may therefore be useful in risk assessment.

The analysis of water in cooling towers was performed by investigating chemical parameters and microbiological methods. The chemical parameters, iron content and Total Dissolved Solids (Conductivity) were measured by photometric and electrometric methods respectively. Bacterial analysis was done by inoculating water samples in suitable selective media, after treating the samples with heat and acid or without any treatment.

Legionella pneumophila was isolated from water samples in cooling towers located at different sites of the Western Province. This method allows the growth of *Legionella* in BCYE agar, inhibiting most of the other bacteria as well as fungi.

Legionella pneumophila was isolated in 5 samples out of 32 samples (15.6%). Using the Latex Slide Agglutination Test, the serotypes of *Legionella pneumophila* isolated were identified as serotype 1 and serotype 2-14.

Though no epidemics have been reported in the country, the results indicated the presence of *Legionella pneumophila* in 15.6% of the samples. Continuous procedures for detection and identification of *Legionella* in environmental samples is warranted.