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Improvement of Hygiene Management in Vietnamese Institutional Kitchens Through ATP Rapid Hygiene Monitoring - Results of a JICA-Supported Pilot Study -

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Abstract

Foodborne illness remains a significant public health concern in many countries. To evaluate the effectiveness of ATP rapid hygiene monitoring as a tool for hygiene improvement, a pilot study was conducted in ten institutional kitchens in Hanoi, Vietnam, under a JICA (Japan International Cooperation Agency)-supported project aimed at reducing the risk of foodborne diseases. The study assessed whether visualizing hygiene conditions through ATP rapid hygiene monitoring test could improve cleaning practices and increase hygiene awareness among kitchen staff.

Surface cleanliness was evaluated using Kikkoman Lumitester Smart and LuciPac A3 Surface system. Adjacent 10 × 10 cm areas of food-contact surfaces and environmental surfaces were sampled and analyzed for ATP (A3: ATP+ADP+AMP) levels, expressed as relative light units (RLU). Microbial contamination was evaluated using Kikkoman Easy Plate AC to determine total viable bacterial counts (CFU). Two rounds of measurements were conducted at the same ten facilities. The first survey was performed in April 2025, and the second survey was conducted approximately six weeks later after feedback and hygiene education had been provided to the participating facilities.

The results demonstrated a clear relationship between ATP(A3) values and microbial contamination levels. Facilities showing lower ATP values generally exhibited lower bacterial counts. Compared with the first survey, both ATP(A3) and CFU values shifted toward substantially lower levels during the second survey, indicating improved hygiene management. Eight of the ten facilities showed measurable improvement, while the remaining two facilities had already demonstrated relatively good hygiene status during the initial assessment. Interviews with kitchen staff and inspectors revealed that ATP(A3) rapid hygiene monitoring increased awareness of sanitation conditions, promoted behavioral changes, and encouraged corrective actions, including replacement of heavily contaminated equipment.

These findings suggest that ATP(A3) rapid hygiene monitoring test is a simple and effective tool for visualizing hygiene conditions, promoting educational interventions, and supporting sustainable improvements in food safety management practices.

Keywords: *ATP(A3) rapid hygiene monitoring, Bacterial counts, Food safety, Vietnam, JICA project*

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