Study Protocol

Official Title:

Effectiveness of a Multimodal Information Technology-enhanced Hand Hygiene Improvement Strategy on Healthcare-associated Infections in Nursing Homes

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Study Protocol

Study Objectives:

- 1. To evaluate the effect of a multimodal hand hygiene intervention on healthcare workers' hand hygiene knowledge, compliance, and technique accuracy.
- 2. To assess the impact of the intervention on healthcare-associated infection (HAI) density rates in nursing homes.

Study Design:

- 1. Cluster-randomized controlled trial.
- 2. Four nursing homes were randomly assigned to the experimental group (two facilities) or the control group (two facilities).

Participants:

- 1. Nurses and nursing assistants working in participating nursing homes.
- 2. Inclusion: Currently employed staff.
- 3. Exclusion: Individuals who had submitted their resignation.

Intervention:

- 1. Experimental group: Received a three-month multimodal IT-enhanced hand hygiene program including amenities, reminders, education, observation with feedback, and patient safety climate improvements.
- 2. Control group: Continued routine hand hygiene practices.

Outcome Measures:

- 1. Primary outcome: Hand hygiene knowledge, technique accuracy, and compliance.
- 2. Secondary outcome: Healthcare-associated infection density.

Data Collection: Baseline and post-intervention at 1, 2, and 3 months.

Ethical Approval: Approved by Kaohsiung Medical University Chung-Ho Memorial Hospital Institutional Review Board (KMUHIRB-F(I)-20220007).

Confidentiality: Participant data will be anonymized and securely stored.

Publication Policy: Results will be published in journals.