

Enterobacteriaceae. However, little has been published about the handwashing sink activities in Singapore hospitals. We explored the handwashing sink activities in a tertiary-care hospital in Singapore. **Methods:** Five trained shadow observers conducted this observational study between December 18 and 21, 2018 (6 hours per day: 07:00–09:00, 09:30–11:30, and 12:30–14:30) in acute-care general wards. We divided the handwashing sink activities by healthcare workers (HCWs) and non-HCWs (ie, visitors, caregivers, and relatives) and by HH- and non-HH-related activities. We used Stata version 15 software for the analysis. The study was approved by the Institutional Review Board of the National Healthcare Group, Singapore (DSRB no. 2020/01257). **Results:** In total, 657 handwashing sink activities were recorded [HCWs, 475 (72.3%) and non-HCWs, 182 (27.7%)]. Of the 475 HCW handwashing sink activities, 451 (94.9%) were HH-related, 10 (2.1%) were for patient nutrition, 7 (1.5%) were for environmental care, 6 (1.3%) were for medical equipment cleaning, and 1 (0.2%) was patient personal-item cleaning. Of the 182 handwashing sink activities by non-HCWs, 117 (64.3%) were HH related, 30 (16.5%) were for patient nutrition, 21 (11.5%) were for personal hygiene, 14 (7.7%) were patient personal-item cleaning. The distribution of handwashing sink activities differed significantly ($P < .01$) between HCWs and non-HCWs. The odds of non-HH-related handwashing sink activities among non-HCWs was 10× higher than among HCWs (OR, 10.44; 95% CI, 5.98–18.23; $P < .01$). **Conclusions:** Handwashing sinks use for non-HH-related activities is higher among non-HCWs than HCWs. Further studies are needed to understand the impact of non-HH handwashing sink activities on nosocomial infections and ways to reduce them.

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Hand hygiene challenges among the ancillary team during the COVID-19 pandemic

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Objectives: Ancillary staff members perform operational support functions and play an active role in enhancing the patient care experience. Infection prevention practices among ancillary staff play a critical role in preventing transmission of microorganisms, which ensures the safety of patients. Low hand hygiene compliance was found among porters in a cross-institutional hand hygiene audit in 2021. A quality improvement team was formed to improve hand hygiene compliance, especially during the COVID-19 pandemic. **Methods:** A focus-group discussion and survey were conducted to understand hand hygiene knowledge and challenges among porters. Using the findings, the team initiated Glo-germ education tools, pocket alcohol hand-rub agents, pocket moisturizer, poster display, and a toolbox messaging system via conversion of group roll call to satellite-area roll call. Respective satellite teams were sent hand hygiene reminders, and prompt corrective action was taken following noncompliance events. Analytic comparisons of pre- and postsurvey data were performed using the χ^2 test, and $P < .05$ was regarded as statistically significant. **Results:** In total, 572 ancillary staff participated in the survey. Knowledge of hand hygiene practices improved significantly following the interventions, as shown in the comparison of pre- and postintervention results: knowledge of the hand hygiene steps ($P < .001$), knowledge of the duration of hand rub ($P < .001$), and knowledge of duration of handwashing ($P < .001$). Also, 295 staff members (97.68%) stated that implementation measures increased their awareness of the importance of hand hygiene. Moreover, the hand hygiene compliance rate improved from

77.8% to 100%. There were no significant differences related to sex ($P = .089$), age group ($P = .355$), years of working ($P = .359$), education level ($P = .268$), or difficulty in reading English ($P = .906$). **Conclusions:** Evaluating staff hand hygiene knowledge and understanding the challenges faced among porters helped toward the development of appropriate interventions and assurance of success in project.

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Personal care formulations prove effective against evolving variants of SARS-CoV-2: Implications for public health and hygiene

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Objectives: Early in the COVID-19 pandemic, global health authorities identified and emphasized the importance of practicing proper hand hygiene to reduce the transmission of SARS-CoV-2 and to diminish the chances of becoming infected. It is well established in the scientific literature that surfactants and alcohols are capable of inactivating enveloped viruses such as SARS-CoV-2. However, given the novel nature of the virus, Unilever adopted an evidence-based approach to demonstrate virucidal efficacy of marketed bar soaps, liquid handwashes, and alcohol-based hand sanitizers against the original and selected variants of SARS-CoV-2. **Methods:** High titers of clinically isolated and laboratory-propagated SARS-CoV-2 strains were subjected to a range of selected proprietary formulations from Unilever at end-user-relevant dilutions, temperature, and contact duration, and were tested according to the internationally recognized ASTM E-1052 test protocol. **Results:** All tested personal-care formulations were effective against the parental SARS-CoV-2 strain as well as the β (beta) and δ (delta) variants of concern. More specifically, bar soaps with a varying concentration of total fatty matter content and liquid handwashes with varying levels of total surfactants reduced the viral titer by >99.9% within 20 seconds. Alcohol-based hand sanitizers demonstrated >99.99% reduction of input viral load within 15 seconds of contact with the viral inoculum. **Conclusions:** In conclusion, we have provided empirical proof that well-designed personal-care formulations that act through generic physicochemical mechanism against the basic structure of the virus particle have high virucidal efficacy against the original and evolved SARS-CoV-2 variants. Furthermore, we argue that due to the broad-spectrum mode of action of these tested formulations, the continued practice of good hand hygiene practices with everyday products holds significant promise as an easily accessible, economic, and effective nontherapeutic public health intervention toward reducing the transmission of present and future variants of SARS-CoV-2 across communities and populations.

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Hand hygiene feedback card—Providing real-time feedback to improve hand hygiene compliance

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Objectives: Hand hygiene is widely recognized as the most effective practice for preventing healthcare-associated infections. Despite ongoing interventions and strategies implemented by the infection control committee, the compliance with and consistency in the hand hygiene practice remains a challenge. At times, staff are unaware when they are noncompliant with