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P0222 Defect rates in touchless versus mechanical hand hygiene dispensers

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Background: Mechanical and touchless hand hygiene dispensers (HHD) are frequently being installed across hospitals areas to facilitate hand hygiene. As little is known about the frequency of malfunctioning in touchless HHDs, we aimed to compare malfunctioning rates between touchless and mechanical HHDs.

Materials/methods: Main visitor areas and the hematology reverse isolation unit at the University Hospital Basel have been equipped with one model of touchless HHDs and one model of mechanical HHDs from a single manufacturer, respectively. These HHDs automatically record each hand hygiene event and the device function, which are transmitted by WiFi to a server. We analyzed the daily electronic HHD reports and hand-written HHD repair protocols in order to compare the defect rate between touchless and mechanical HHDs.

Results: A total of 44 touchless and 39 mechanical HHDs were analyzed. The median follow-up in non-defect HHDs was 840 days (interquartile range, 840–840 days), with the overall follow-up accounting for a total of 56,280 dispenser days: The cumulative defect rate was 27% (12/44) with 29,629 dispenser days in touchless and 0% (0/39) with 26,651 dispenser days in mechanical HHDs, respectively (0.4 versus 0.0 defects per 1000 dispenser-days; $P = 0.001$ for difference in malfunctioning risk over time).

Conclusions: Touchless HHDs had a significantly higher risk of malfunctioning than mechanical HHDs. The ease of use of touchless HHDs for visitors should be balanced with the additional resources required for maintenance, battery replacement and larger size. Mechanical HHDs may be better suitable for healthcare workers due to their high reliability, low requirements for maintenance and battery-free function. Other manufacturers may lead to better results but this type of dispenser has a high acceptance and the WiFi function allows selecting the best location and detecting empty dispensers by e-mail alert.