Hand hygiene compliance and associated factors among healthcare workers in comprehensive emergency obstetric and newborn care facilities in Tanzania: a cross-sectional study.

Authors:

Philomena R. Kazwala[1], Pius Komba[1], Amelia Chebyala[1], Ezra J. Mrema[1], Israel P. Nyarubeli[1,2]*

[1] School of Public Health and Social Sciences (SPHSS), Muhimbili University of Health and Allied Sciences (MUHAS), Dar es Salaam, Tanzania

[2] Department of Psychosocial Sciences, University of Bergen, Bergen, Norway

*Corresponding author: israel.nyarubeli@uib.no

Abstract

Background: Hand hygiene is an effective protective measure for infection prevention and control. However, its compliance is low among healthcare workers in low resource health facilities. This study assessed hand hygiene compliance and associated factors among healthcare workers in selected comprehensive emergency obstetric and newborn care (CEmONC) health facilities in Tanzania. This study assessed moment and participant level hand hygiene compliance and associated individual and workplace factors among health care workers in selected facilities.

Methods: We conducted an analytical cross-sectional study among 281 clinicians and nurses in four selected CEmONC health facilities in Tanzania from April to May 2026. Hand hygiene compliance was assessed using 360° video-assisted observation. Each participant was assessed once for each of the WHO Five Moments. A structured questionnaire assessed individual and facility-related factors. Ordinal logistic regression was used to identify factors associated with hand hygiene compliance.

Results: Of 300 healthcare workers contacted, 281 participated (93.7%). Hand hygiene compliance varied across the WHO Five Moments with the highest (79.7%) after touching a patient and the lowest (58.7%) before a clean or aseptic procedure. Good hand hygiene compliance was found in 26.3% healthcare workers, while 28.5% had moderate, and 45.2% had poor hand hygiene compliance. Participants who reported 40 - 60 seconds as the recommended duration for handwashing with soap and water had higher odds of compliance (aOR, 2.53, 95% CI: 1.09-5.87). Reported use of hand hygiene posters as reminders was inversely associated with compliance (aOR = 0.39, 95% CI: 0.21- 0.76).

Conclusion: Hand hygiene compliance among healthcare workers in CEmONC facilities in Tanzania was low and varies across WHO Five Moments. Knowledge of 40 - 60 seconds as the recommended duration for handwashing with soap associated with better compliance. Healthcare facilities should strengthen hand hygiene through competence-based training, efficient workplace reminders, adequate hand hygiene resources and supportive supervision.

Keywords: Hand Disinfection; Health Personnel; Infection Control; Cross Infection; Tanzania