

Abstract

Digital health, encompassing tools and platforms that enhance healthcare access, has demonstrated potential for advancing Universal Health Coverage (UHC). However, demographic factors such as age, gender, income level, geographic location, education, and digital literacy significantly influence the equitable adoption and impact of these technologies. The objective of this research was to evaluate how these demographic variables moderate the relationship between digital health and equitable UHC access.

A quantitative approach was adopted, employing exploratory and confirmatory factor analysis, structural equation modeling, and path analysis to test the hypotheses. The study utilized survey data from 348 respondents in Makueni County. Key findings revealed that equitable access was strongly influenced by demographic variables, as depicted in their high R^2 values with age ($R^2 = .85$), gender ($R^2 = .89$), income ($R^2 = .84$), education ($R^2 = .92$), location ($R^2 = .77$), and digital literacy ($R^2 = .80$). A regression analysis revealed that demographic factors significantly moderated the relationship between digital health and equitable access to universal health coverage, $p = .033$. Given that the p-value was below the conventional alpha level of .05, the findings suggest a statistically significant moderation effect of demographic characteristics on the relationship between digital health and equitable UHC access. From the foregoing, the study recommends investing in digital infrastructure in rural areas, enhancing affordability through subsidies, and integrating digital literacy programmes to bridge disparities. Policymakers should adopt targeted strategies to address demographic disparities, ensuring that digital health technologies serve as equitable enablers for UHC in Kenya and similar contexts.