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Scale validation for the identification of falsified hand sanitizer : public and regulatory authorities perspectives from United Arab Emirates

(Article) (Open Access)

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Abstract

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Background: Since the time of declaration of global pandemic of COVID-19 by World Health Organization (WHO), falsified hand sanitizers surfaced regularly in markets, posing possible harm to public due to unlisted inclusion of methanol. The current research is an attempt to develop and validate a tool to document falsified hand sanitizer in the UAE community. Method: A descriptive cross-sectional community-based study was conducted among 1280 randomly selected participants. Respondents were sent a web-based electronic link to the survey via email. Content validity, factor analyses and known group validity were used to develop and validate a new scale to identify falsified hand sanitizer . Test-retest reliability, internal consistency, item internal consistency (IIC), and intraclass correlation coefficients (ICCs) were used to assess the reliability of the scale . SPSS version 24 was used to conduct data analysis. Results: A total of 1280 participants were enrolled in the study. The content validity index (CVI) was 0.83 with the final scale of 12 items. The Kaiser-Meyer-Olkin (KMO) value was 0.788, with the Bartlett test of sphericity achieving statistical significance ($p < 0.001$). Our factor analysis revealed a 3-component model. The 3-factor solution was confirmed by PCFA analysis and had associations with good fit values. The PCFA for NFI was 0.970, CFI 0.978, and TLI 0.967. All values were in excess of 0.95, with RMSEA values below 0.06 at 0.03; all of these values indicated a good model fit. The Cronbach's alpha was good overall (0.867). All factors had a Cronbach's alpha value in excess of 0.70. The instrument demonstrated that every item met the IIC correlation standard ≥0.40. The scale displayed good overall ICC statistics of 0.867 (95% CI 0.856–0.877) with statistical significance ($p < 0.001$). The scale 's test-retest reliability was assessed through correlation of the falsified hand sanitizer identification score of respondents at the two time points. The test-retest correlation coefficient was 0.770 (p value < 0.01). Participants with post-graduate education were more likely to identify the falsified hand sanitizer compared to those with high school education. ($p < 0.001$). Conclusions: This study developed and validated a new scale for the measurement of falsified hand sanitizer . This is expected to improve and promote collaboration between the health regulators and the public and hereby encourage customer satisfaction and participation. © 2020, The Author(s).

SciVal Topic Prominence

Topic: Fomepizole | Poisoning | Ethylene Glycols

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Counterfeit COVID-19 Falsified hand sanitizer Regulation and compliance behaviours Reliability analysis Validation studies

Indexed keywords

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