

# A study on knowledge, attitude and practice towards adulterated medicine on e-commerce platform among patients in Klang district health clinics: A cross-sectional study

**Lim Xin Ru, Geetaloshiny Balasingam, Tan Lee Fei, Nurin Nabila Najeeb, Nur Filzah Romli**

Pharmacy Unit, Klang District Health Clinics (Pejabat Kesihatan Daerah, PKD Klang), Selangor, Malaysia.

## ABSTRACT

**Introduction:** Technology has changed the world. Due to the increasing demand of online sales, some imprudent sellers avail themselves by selling adulterated medicine on e-commerce platforms. Objective: To identify the level of knowledge, attitude and practice of patients towards adulterated medicine on e-commerce platforms. **Materials and Methods:** A prospective cross-sectional study with convenient sampling was carried out in adherence to ethical standards. 393 participants were recruited from 12 primary care clinics in PKD Klang from February 2023 till June 2023. Participants responded to pharmacist-assisted questionnaires developed by adaptation and modification from previous studies. Extracted data was analysed using IBM Statistical Package for the Social Science (SPSS) Software and Microsoft Excel 2019. **Results:** In terms of adulterated medication knowledge, disappointingly half the surveyed population consisting of 171 participants (43.7%) and 151 participants (38.6%) were unsure of MAL registration and unaware of Meditag Hologram purpose respectively. As for their attitude, 139 persons (35.4%) agreed that online medicines are cheaper, risking the safety and effectiveness of the medication. However, in terms of actual purchasing, a gripping 165 surveyed population (42.2%) disagreed with online medication buying, 139 persons (35.7%) agreed for Meditag to be displayed and 156 (39.8%) of them utilised pharmacists' consultation before e-commerce purchasing. Positive practicing was displayed by 266 participants (67.8%) as they performed comparison between drug label and packaging between retail and online medications. Interestingly, 205 persons (52.2%) adhered to report unregistered medications at National Pharmaceutical Regulatory Agency (NPRA) websites. **Conclusion:** A confluence of validated guidelines, national policies and rampant public education are required as future mitigation in addressing the unmet needs of safe medication usage.