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### KNOWLEDGE, ATTITUDES, AND AWARENESS OF DRUG-DRUG INTERACTIONS AMONG PHARMACY STUDENTS IN PALESTINE.

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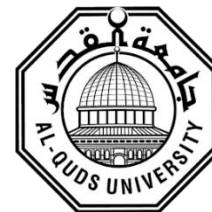
#### Abstract

**Background:** Drug-drug interactions (DDIs) have long been recognized as a crucial clinical challenge in healthcare, occurring when two or more drugs react with each other, leading to decreased effectiveness, causing unexpected side effects, or increasing the action of one drug, causing toxicity. According to the World Health Organization (WHO), a significant part of adverse drug reactions related to drug-drug interactions is preventable. In Palestine, the healthcare system faces unique challenges, including limited resources, restricted access to advanced clinical decision support systems, and evolving pharmaceutical education standards. No empirical research has evaluated DDI competencies among pharmacy students in Palestine during their educational years. Study purpose.

**Objectives:** The primary aim of this study is to evaluate the knowledge, attitudes, and awareness of drug-drug interactions among pharmacy students in Palestine. Specific

objectives: include: to assess the level of knowledge regarding drug-drug interactions among pharmacy students in Palestine across different academic years; to evaluate the attitudes of pharmacy students toward the importance of identifying and managing drug-drug interactions in pharmaceutical care; To determine the level of awareness among pharmacy students regarding the clinical significance and consequences of drug-drug interactions; and to identify demographic and educational factors associated with higher DDI knowledge.

**Methods:** This study used a cross-sectional quantitative descriptive correlational design. A total of 801 participants were included. A sample of pharmacy students (3rd, 4th, 5th, and 6th year) was selected from various universities across Jerusalem and the West Bank through convenience sampling. Data were collected via a self-administered structured questionnaire divided into six sections: socio-demographic information, DDI knowledge, attitudes toward management, awareness of clinical significance, self-perceived confidence, and perceived barriers. Statistical analysis was performed using SPSS V. 27.0, utilizing descriptive statistics, independent samples t-test, ANOVA, and Pearson correlation.



**Results:** Overall, participants demonstrated a moderate level of knowledge regarding drug–drug interactions (DDIs), with an average of 62.2% correct responses compared to 37.8% incorrect responses. The largest proportion of participants demonstrated a high level of knowledge toward drug–drug interactions (40.7%). The overall mean attitude score toward drug–drug interaction (DDI) management was 3.22, indicating generally positive attitudes. The majority of participants were aware of drug–drug interactions (72.3%). Significant differences were observed across several demographic variables; age group was significantly associated with all outcomes, including knowledge, attitude, awareness, confidence, and barriers (all  $p < .01$ ), and academic year showed significant differences across all outcomes (all  $p < .001$ ).

**Conclusions:** This investigation fills a regional evidence gap by providing one of the first comprehensive evaluations of DDI competencies among pharmacy students in Palestine. The findings will establish baseline data on students' knowledge, attitudes, and awareness that can be used to revise curricula and assessment standards, inform teaching methodologies, and enhance graduates' preparedness for clinical responsibilities to improve population health outcomes. Strengthening DDI competencies during training and produce well trained graduates is especially urgent.

**Key Words:** Drug-drug interactions, Pharmacy students, Palestine, Medication safety, Pharmacy education.