

# **Prevalence, Determinants, and Characteristics of Extemporaneous Compounding in Jordanian Hospitals and Community Pharmacies**

**Nour Maraqa and Sarah Jalouqa**

School of Pharmacy

The practice of pharmaceutical compounding is required to provide dosage forms or strengths that are, otherwise, commercially unavailable, contributing to personalized medicine. Providing compounded medication satisfies patient's special needs and overcomes the shortage of these products in the market. This study aimed to investigate the prevalence, characteristics, and determinants of extemporaneous compounding in Jordanian pharmacies. The study was conducted among pharmacies in the 12th governorates of Jordan. This was a cross-sectional survey that included 431 randomly selected pharmacies. Obtained data was collected via face to face interview, where pharmacists voluntarily and verbally answered the survey's questions.

Results revealed that 51.7% of the surveyed pharmacies practiced extemporaneous compounding, the main reason for not providing extemporaneous compounding services (53.8% ) was not receiving prescriptions that require compounding. The second reason was lack of the equipment and supplies necessary for compounding. Extemporaneous compounding prescriptions were mainly issued by dermatologists (50.8%), with dermatological indication being the most common of all for extemporaneous compounded prescriptions (95.4%). While the main reason for requesting compounded medications is the unavailability of the prescribed product (87.9%). The vast majority of the compounded dosage forms were creams and ointments, (99.6%) and (91.5%), respectively, and solutions (23.3%). Only (2.2%) of the studied pharmacies that perform compounding provided sterile compounding services. The major source for compounding protocols is the physician order with (94.2%), and in-house protocols (44.8%). However, the main source for compounded medications expiry date was self-reported information (57.8%) and physician's order (53.4%). Extemporaneous compounding is a widely spread pharmaceutical practice. Topical preparations are the most commonly prepared product category. There is a need for standardizing the product formularies and improving the scientific basis for expiry dating for products.