ACTA SCIENTIFIC PHARMACEUTICAL SCIENCES (ISSN: 2581-5423)

Volume 3 Issue 9 August 2019

Letter to Editor

# Extemporaneous Compounding

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**Received:** June 06, 2019; **Published:** August 20, 2019

The issue of extemporaneous preparation in clinical settings is facing critical challenges in manipulating commercial medicines. The data and information for adjusting the accurate dose, over dose, and toxicity for pediatric use is lacking. Moreover, evaluation and stability of these preparations for pediatric population, need specialized trained and knowledgeable pharmacists to develop safety, stable and effective formulations.

Furthermore, intensified compounding courses, workshops for the pharmacists is not been emphasized by authorities especially developed countries.

The physiology, absorption, metabolism and pharmacodynamics in children are different from adult. Therefore, compounding of pediatric extemporaneous preparations from adult medicines is hazardous issue. Pharmacists may face with ethical and legal actions, problems and critical consequences from low therapeutic outcomes. Selection of the appropriate additives and the appropriate dosage form to dispense the prescribed dose is crucial, it needs expert consultation and proper guidance. Therefore, this piece of article focuses in proper selection of appropriate excipients, dosage forms according to pediatric ages.

Pediatric ages categories include: [< 37 weeks gestation] specifies premature/newborn infants while full term is from 0 to 28 weeks. On the other hand, toddlers from 1 month to 2 years, preschool children/children from 2 to 5 years, school children from 6 to 11 years and teenagers from 12 to 16 years.

Complete knowledge and information regarding the pediatric physiology, pharmacokinetics and pharmacodynamics is available in WHO guidance [2007 First line list].

Regarding the selection of the dosage and route of administration should be based on care givers convenience in admiration which enhance their adherence and compliance.

Therefore, acceptability taste, odor the tools used for dose measurements, should be based on selection of safe, stable and compatible excipients in terms of pediatric age and disease status and it is provided in FDA site Generally Recognized as Safe list [GRAS], (SCOGS) Database. The Oro-dispersible, effervescent tablets and chewedof fast dissolving and melting properties on the tongue and Liquid dosage forms are convenient forms for pediatrics while solid capsules and tablets are suitable for adolescents.

Regarding the physicochemical aspects of APIs, testing, analysis, and evaluation are in pharmaceutical literature and textbooks such as ME Aulton (Ed.): Pharmaceutics, The Science of Dosage Form Design, Chapter 8, Churchill Livingstone, 2002. Working document QAS/08.257 page 9.

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