PEDIATRIC DRUG FORMULATIONS-PROBLEMS AND EXPECTATION

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Background. Pediatric drug formulations are difficult due to a variety of factors relating to pediatric population differences from adult populations due to different physiology and pathological processes. The pediatric drugs are expected be safe and effective to treat the child in an easy way, without causing any harm and less drugs adverse reactions. **Objective of the study.** To study and understand the problems of the pediatric drugs formulations. Identify new directions in development of pediatric formulations, especially mini-tablets, orodispersible, chewable dosage forms for providing better medicines for children. **Material and methods.** In this review was conducted literature research from the PubMed and European guideline database, regarding to highlight the problems and expectations of formulating the pediatric drugs. **Results.** The use of unlicensed and off-label medicines for treating children is widespread with associated risks as these products have not been properly studied in pediatric populations. Healthcare professionals and parents are often required to manipulate an adult medicine to obtain an appropriate dose for a child, for example, by splitting a tablet to provide a smaller dose or preparing a suspension from a crushed tablet. Such manipulations increase the variability in the product by inaccurate measurement, issues with stability or errors in instruction for manipulation. There are currently regulatory to develop age-appropriate medicines for new drugs. Both, oral and buccal dosage formulations uphold great application qualities for pediatric patients. **Conclusion.** Unlike adult pharmaceutical formulations, pediatric dosage developments tend to be a challenge. The rising availability of labelling information and the tendency toward more cautious usage of these substances will aid health care practitioners in selecting appropriate pediatric-friendly products. **Keywords:** pediatric drug, unlicensed, off-label medicines, excipients.