

DRUG PROFILE**DOSAGE ADJUSTMENT OF MEDICATIONS IN OBESE ADOLESCENTS*****Jeesson C Unni**

Abstract: *The obesity epidemic is a reality today in India. It alters the pharmacokinetics of medications, impacting loading doses, dosage intervals, plasma half-lives and the time to achieve steady-state concentrations. Weight-based dosing in obese children raises the risk of medication errors, as there are no readily available dosing guidelines. An attempt is made in this article to discuss some of the issues involved and also possible adjustments that could be made to prevent toxicity under-dosing of medications in this group of children.*

Keywords: *Obesity, Dosage adjustment, Drug dosage calculations, Pharmacokinetics.*

Points to Remember

- *In obese children, drug pharmacokinetics are significantly altered due to changes in body composition, including a higher proportion of body fat that affects the volume of distribution (Vd) for lipophilic medications, which may require adjustments in dosing to avoid therapeutic failure or toxicity.*
- *Awareness of dosing adjustments required for obese adolescents is a must, to avoid toxicity or under-dosing of various medications*
- *Traditional weight-based dosing methods (e.g., total body weight) are often inadequate for this population, however alternative methods such as adjusted body weight (ABW) or body surface area (BSA) may be more appropriate, as they account for the unique physiological changes associated with obesity.*
- *As pediatricians may not be able to decide on the size descriptors to base doses for drugs and calculate doses accordingly, it may be prudent to have Table 1 on the desk top to help with dosing of various commonly used drugs in obese children.*
- *Clinicians must be cautious and consider both the pharmacokinetic changes and the specific properties of the drug being prescribed to ensure safe and effective treatment and reduce risk of toxicity.*
- *More studies are needed to establish specific dosing guidelines for obese pediatric patients.*

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