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## Pharmacokinetic and pharmacodynamic features of nanoemulsion following oral, intravenous, topical and nasal route (Review)

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### Abstract

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**Background:** Most of the active pharmaceutical ingredients discovered recently in pharmaceutical field exhibits poor aqueous solubility that pose major problem in their oral administration. The oral administration of these drugs gets further complicated due to their short bioavailability, inconsistent absorption and inter/intra subject variability.

**Methods:** Pharmaceutical emulsion holds a significant place as a primary choice of oral drug delivery system for lipophilic drugs used in pediatric and geriatric patients. Pharmacokinetic studies on nanoemulsion mediated drugs delivery approach indicates practical feasibility in regards to their clinical translation and commercialization. **Results:** This review article is to provide an updated understanding on pharmacokinetic and pharmacodynamic features of nanoemulsion delivered via oral, intravenous, topical and nasal route. **Conclusion:** The article is of huge interest to formulation scientists working on range of lipophilic drug molecules intended to be administered through oral, intravenous, topical and nasal routes for vivid medical benefits. © 2017 Bentham Science Publishers.

### Author keywords

Carbon nanotubes   Hydrophobicity   Oral delivery   Pharmacodynamics   Pharmacokinetics   Routes of administration

### Indexed keywords

EMTREE drug terms:   alpha tocopherol   arteether   candesartan   celecoxib   chlorambucil   cosurfactant   dapsone   docetaxel   domperidone   efavirenz   evodiamine   fisetin   granisetron   heptadecanoic acid   imipramine   melphalan   nitrendipine   oil   olanzapine   olmesartan   paclitaxel   Panax notoginseng extract   resveratrol   risperidone   silymarin   surfactant   tramadol   ubidecarenone   unindexed drug   ziprasidone

EMTREE medical terms:   aqueous solution   drug administration route   drug bioavailability   drug delivery system   drug solubility   drug structure   geriatric patient   human   intranasal drug administration   intravenous drug administration   lipophilicity   nanoemulsion   nonhuman   oral drug administration   pediatrics   pharmacokinetic parameters   priority journal   Review   topical drug administration

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