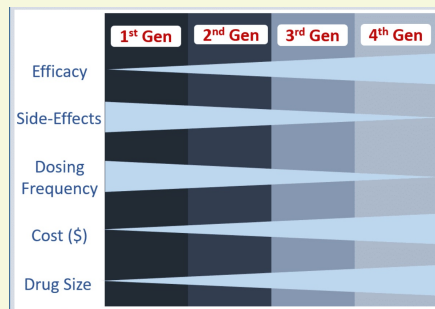


Effect of Me-Too Drugs



Side Effects of Me-Too Drugs

Crowded Market-place too many similar drugs

Stifled innovation Companies prioritise creation of 2nd-gen drugs rather than pursuing new drugs

Cost Cost increases

Example

Gen 1 Teprotide
Couldn't be taken by mouth

Gen 2 Captopril
Contains sulfur group, allowing it to be taken by mouth
caused intense itching, loss of taste, dry cough
had to be taken three times a day

Gen 3 Enalapril
doesn't have sulfur
can be taken orally
taken once a day

Effects of Hypertension

Brain Stroke
Loss of brain function
Headache

Kidney Chronic Failure
Proteins leak into urine
most vulnerable organ

Effects of Hypertension (cont)

Vessels Endothelial damage

Heart Heart Attack
thickened heart wall

Eyes Chronic retina damage

Definitions

Innovator Drug The first drug onto the market to meet a previously unmet medical need

Therapeutic Class A family of drugs that are grouped together based on their use for treating similar diseases

Drug Analogue A molecule with a similar but not identical structure to another drug. Despite similarities they can have very different pharmacological and toxicological properties.

Small Molecule Drug A drug with a molecule mass less than 500 grams. Often cheap to make

Dosing Frequency The number of times a patient has to take a pill everyday.

Compliance The extent to which a person follows the advice of their doctors. Somehow who skips doses shows low compliance

Me-Too Drug Examples

Amoxicillin 1964 From: penicillin
Fixed: Sensitivity to stomach acid
Treats: everyday infections

Fexofenadine 1980 From: Diphenhydramine
Fixed: Sedation
Treats: antihistamine

Cefepime 1983 From: cephalosporin
Fixed: More suitable killing activity
Treats: life threatening infections

Celecoxib 1995 From: Ibuprofen
Fixed: gastrointestinal damage
Treats: anti-inflammatory

Atorvastatin 1996 From: Lovastatin
Fixed: More effective
treats: lowers cholesterol

Atazanavir 1997 From: PIS
Fixed: didn't disrupt lipid metabolism
Treats: AIDS

Side Effects

Most drugs cause side effects. Drugs are designed to bind a specific receptor, however they may bind to, and stop the function, of another receptor. This is what causes the side effects. This tendency to bind to multiple receptors is known as non-specificity

