Changing lives through learning

Qualification Unit

This unit forms part of a regulated qualification.

Unit Title: Actions and Uses of Medicine

Unit Reference Number: R/617/8900

Level: Three (3)

Credit Value: Nine (9)

Minimum Guided Learning Hours: 60

Learning Outcome (The Learner will):	Assessment Criterion (The Learner can):
1. Understand the principles of how medicines work in the human body	1.1 Describe the **modes of actions** of medicines on the human body
	1.2 Explain the reasons for using different **routes** for the administration of medicines
	1.3 Explain how medicines are **processed** by the body
	1.4 Explain how the **approaches** to personalised medicines may support the management of an individual's health
2. Understand the uses and limitations of medicines	2.1 Describe the common dosage regimens for drug-drug and drug- food **interactions**
	2.2 Evaluate how **individual factors** affect successful medicinal and treatment optimisation
	2.3 Evaluate how **medicine factors** affect successful medicine optimisation
3. Understand the use of standard pharmacy resources to research pharmaceutical queries	3.1 Evaluate the **suitability** of different sources of pharmaceutical **information** for pharmaceutical queries
	3.2 Explain the importance of **evidence-based practice** for pharmacy professionals

Indicative Content	
LO1	**Modes of action:** drug actions at receptor sites, agonists and antagonists, partial agonists, competition, reversibility, enzymes and ion channels with common examples, non-specific drug action, genetic mechanisms **Pharmacology:** routes by which drugs are delivered to the body including oral, rectal, injectable, transdermal, inhaled, advantages and disadvantages of each route **Processed:** **Pharmacodynamics:** route by which drugs travel through the body to the site of action, factors that influence the amount of drug that reaches the site of action and the final fate of therapeutic agents, influence of factors such as absorption, metabolism, excretion **Pharmacokinetics:** clearance; volume of distribution; half-life; Lethal Dose 50% (LD50), bioavailability; protein binding; clearance by the liver and kidneys; how dosage regimens are designed; purpose of therapeutic drug monitoring. **Approaches:** diagnoses, intervention, drug development, usage, issues
LO2	**Interactions:** Chemical incompatibilities, nutrition/drug incompatibilities, genetic factors causing incompatibilities, pharmacokinetics and pharmacodynamics, additive and antagonistic, concentration and reduction **Common adverse interactions:** St John's Wort, grapefruit juice, Seville oranges, limes, pomelos, green leafy vegetables, dairy products, fibre, liquorice, foods containing tyramine, monoamine oxidase inhibitors (MAOIs) **Individual Factors:** *Demographic factors:* age, gender, ethnicity, lifestyle *Social factors:* lifestyle, employment, education, housing, income *Physiological factors:* liver and renal impairment, allergies, altered body surface **Medicine Factors:** Side effects, route of administration, clinical trials, adverse drug reactions (ADRS)
LO3	**Suitability:** Current, authoritative, accurate **Information:** British National Formulary (BNF), other pharmaceutical texts eg Martindale, British Pharmacopoeia, Pharmaceutical Codex, Pharmaceutical Journal, other medical journals, online resources eg Micromedex, Medline, eBNF **Evidence-based practice:** Definitions, benefits, practices, research methodologies (qualitative, quantitative)