

CPD QUESTIONNAIRE 13.6 ETHICS

Article: Polypharmacy, artificial intelligence (AI) and rational medication prescribing – The new frontier
Hartshorne, page 32. (Please note, some questions have more than one answer)

1. Which of the following reported findings on the risk of developing side-effects is **TRUE**?
 - a 5% with the use of two medicines
 - b 15% with the use of two medicines
 - c 35% with the use of five medicines
 - d 58% with the use of five medicines
 - e 82% with the use of seven or more medicines
2. Which of the following statements relating to the 'definition of polypharmacy' are **TRUE**?
 - a Simultaneous use of multiple medications by the same individual for simultaneous treatment of multiple conditions
 - b The practice of prescribing ≥ 10 medications
 - c It is common medical practice for patients to be safely prescribed more than one medication, thus benefiting from simultaneous treatment of multiple conditions
 - d Extreme polypharmacy refers to use of ≥ 5 medications
 - e Extreme polypharmacy refers to use of ≥ 10 medications
3. Polypharmacy represents a potential for harmful consequences for the patient due to which of the following reasons?
 - a Interaction between medications
 - b Prescribing medications without regard to age
 - c Interaction between medications and diseases
 - d Pharmaceutical compatibility
 - e Warranted co-administration of excessive quantities of medicines for the treatment of the same disease
4. Although there are circumstances in which the prescription of multiple medications is appropriate and leads to improved health outcomes, distinguishing between appropriate and inappropriate polypharmacy is a complex and challenging issue for the clinician (TRUE or FALSE?)
 - a True
 - b False
5. Which of the following statements relating to the prevalence of polypharmacy are **TRUE**?
 - a Ranges from 34-65% in elderly patients
 - b Receipt of ≥ 10 medications is strongly associated with increasing age ≥ 80
 - c Independently more common in people living in more wealthy areas
 - d Independently less common in people resident in care homes
 - e Independently more common in people living in more deprived areas
6. Which of the following to risk factors associated polypharmacy are **TRUE**?
 - a Patients aged 50 and younger
 - b Multiple chronic medical conditions
 - c Frequent hospitalization and emergency room visits
 - d Frailty
 - e Patients 75 years and older
7. Artificial intelligence (AI) automates repetitive and progressive learning and discovery through exposure to new data bases and adjusts to new data inputs as it goes along and incorporates real-world clinical experiences and data to produce predictions and/or recommendations. (TRUE or FALSE?)
 - a True
 - b False
8. Which of the following statements relating to artificial intelligence (AI) are **TRUE**?
 - a Uses mathematical algorithm-based predictive models to process and analyse huge amounts of complex datasets faster and more accurate.
 - b Is a replacement for clinicians
 - c AI could analyse age, medications and diseases specifically for the patient 60 times faster than the manual method
 - d To eliminate prescription of potentially appropriate medicines
 - e The collection, use, and communication of personal health information to train AI algorithms raise unique legal and ethical concerns.
9. Which of the following limitations of Artificial Intelligence (AI) use in polypharmacy are **TRUE**?
 - a Current AI applications have intelligent algorithms to account for complex real-world patients and their medications
 - b Adequate AI knowledge is available on the interaction between 3+ medications
 - c Multiple data sources are required to improve machine learning to achieve better prediction accuracy
 - d Common disadvantages of AI include bias, discrimination and transparency concerns
 - e Current medication-medication AI prediction models only consider effects of two medications
10. Without complete and comprehensive scientific, biological and clinical databases and access to full text scientific literature, the quality of AI responses may be biased, inaccurate and questionable (TRUE or FALSE?)
 - a True
 - b False

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