Clinical knowledge survey

\*Statements appearing in red were not included in the final 40 statements

For Cases 1-3

* Very relevant = 7
* Moderately relevant = 6
* Only slightly relevant = 5
* Neutral = 4
* Only slightly irrelevant = 3
* Moderately irrelevant = 2
* Totally irrelevant = 1

Case 1:

A slightly overweight, 51yo female patient who regularly visits your pharmacy presents a prescription for perindopril 5mg. The dispensing records indicate that the last antihypertensive agent prescribed for this patient was the perindopril/indapamide combination and it was last dispensed 3 months ago. Please indicate how relevant each piece of additional information would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * Discuss with the patient whether the medication change was intentional. | 7 | 6.89 | 0.32 | 7 |
| * Discuss with the patient's doctor whether the medication change was intentional. | 7 | 6.28 | 1.13 | 7 |
| * Obtain the patient’s blood pressure to determine current efficacy of her antihypertensive treatment. | 5 | 5.11 | 1.53 | 1 |
| * Determine the patient's smoking history. | 5 | 4.67 | 1.64 | 1 |
| * Discuss with the patient their compliance with the antihypertensive agent. | 7 | 6.50 | 1.42 | 7 |
| * Determine if the patient has had a cholesterol level done recently. | 5 | 4.72 | 1.45 | 1 |
| * Discuss a weight management program with the patient. | 5 | 5.06 | 1.55 | 1 |

Case 2:

A frail 80yo male patient presents to collect his last repeat from his glyceryl trinitrate sublingual spray prescription. On dispensing, the pharmacist notices that this is the third time this medication has been dispensed in the last two weeks. Please indicate how relevant each piece of additional information would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * Determine if the pain the patient is feeling is actually due to angina. | 7 | 6.89 | 0.32 | 7 |
| * Determine if the patient has any expired bottles of GTN spray at home. | 5 | 4.56 | 1.98 | 1 |
| * Ask the patient to demonstrate his administration technique. | 7 | 6.67 | 0.59 | 7 |
| * Establish whether the patient has a new script for GTN spray at home. | 5 | 4.22 | 1.99 | 1 |
| * Determine how long since the patient's GP has reviewed his angina treatment. | 7 | 6.94 | 0.24 | 7 |
| * Determine how efficacious the GTN spray is. | 7 | 6.44 | 1.54 | 7 |
| * Determine if the patient has changed his diet in the last fortnight. | 1 | 2.89 | 2.14 | 1 |

Case 3:

A 58kg, 35yo female presents to the pharmacy to collect a prescription for methotrexate 10mg weekly from her rheumatologist which is a new medication for her. Please indicate how relevant each piece of additional information would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * Determine if the patient has had baseline liver function tests. | 7 | 6.78 | 0.43 | 7 |
| * Determine if the patient has had a negative pregnancy test and is currently taking/using adequate contraception. | 7 | 7.00 | 0.00 | 7 |
| * Determine if the side-effects of methotrexate have been explained to the patient. | 7 | 6.94 | 0.24 | 7 |
| * Determine if the patient has been instructed to take folic acid. | 7 | 6.39 | 0.85 | 7 |
| * Determine if the patient is also taking regular paracetamol. | 5 | 4.06 | 2.07 | 1 |
| * Determine how often the patient drinks alcohol. | 6 | 5.83 | 1.47 | 7 |
| * Determine if the patient is currently taking any over-the-counter antacids. | 2 | 3.89 | 2.25 | 1 |

For Cases 4-6

* Highly likely = 7
* Moderately likely = 6
* Only slightly likely = 5
* Neutral = 4
* Only slightly unlikely = 3
* Moderately unlikely = 2
* Highly unlikely = 1

Case 4:

A 65kg, 45yo female patient comes into the pharmacy to enquire about possible side-effects. She was commenced paroxetine 20mg daily a few days ago and has been experiencing increasing anxiety (which is the reason the paroxetine was initially started), sweating and tachycardia. She has a medical history of atrial fibrillation and severe lower and is also taking digoxin, ramipril, tramadol and methadone. Please indicate how likely each drug-related problem would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * The commencement of the paroxetine may have resulted in an increase in anxiety for the patient. | 6 | 5.78 | 1.35 | 7 |
| * This dose of paroxetine is unlikely to be controlling the patient's anxiety symptoms and an increase in her dose should be considered. | 1 | 2.50 | 1.62 | 1 |
| * The paroxetine may have interacted with the tramadol to cause the patient's symptoms. | 7 | 6.61 | 0.78 | 7 |
| * The paroxetine may have interacted with the methadone to cause the patient's symptoms. | 7 | 4.50 | 2.23 | 7 |
| * The paroxetine may have interacted with the digoxin to cause the patient's symptoms. | 1 | 3.00 | 1.88 | 1 |
| * The patient may be experiencing digoxin toxicity and should be referred back to her GP. | 1 | 2.89 | 2.19 | 1 |
| * The patient's symptoms could be due to worsening atrial fibrillation and her digoxin dose should be increased. | 1 | 3.00 | 2.00 | 1 |

Case 5:

A slightly overweight, 78yo female patient with a history of hypertension and mild heart failure presents with prescription for frusemide 20mg D to treat her swollen ankles. She is also currently taking lercanidipine 20mg ramipril 2.5mg D, plus amitriptyline 10mg N for sleep. Please indicate how likely each drug-related problem would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * The patient's symptoms are likely to indicate a worsening of her heart failure. | 6 | 6.50 | 0.51 | 7 |
| * The swollen ankles may be due to an increased fluid intake caused by a dry mouth from the amitriptyline. | 5 | 4.56 | 1.34 | 1 |
| * Lercanidipine could be causing peripheral oedema. | 7 | 6.67 | 0.59 | 7 |
| * The swollen ankles may be due to an increased fluid intake resulting from hyperglycaemia. | 2 | 3.22 | 1.70 | 1 |
| * The patient may need to increase her level of exercise to improve blood flow in her ankles. | 5 | 3.67 | 1.78 | 1 |
| * The patient may have SIADH which has led to swollen ankles. | 3 | 3.39 | 1.65 | 1 |
| * The patient may have been experiencing an arrhythmia which has decreased her cardiac output and caused her swollen ankles. | 4 | 4.11 | 1.53 | 1 |

Case 6:

A lady comes into the pharmacy to collect her elderly husband’s prescriptions for him while he is recuperating home. She states there is a new prescription for ‘Imdur® 60mg M’ that was started in the hospital last week, new medication doesn’t seem to be working and her husband is still experiencing chest pain. The husband’s history regular dispensing of Somac® 40mg N, Iscover® 75mg M, Lipitor® 20mg N, Duride® 60mg N, Coversyl® 5mg Spiriva® 18mcg M and GTN spray PRN. Please indicate how likely each drug-related problem would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * Her husband may be experiencing a decrease in symptom control for his COPD and his shortness of breath is causing the chest pain. | 5 | 4.56 | 1.50 | 7 |
| * Her husband may be experiencing nitrate tolerance if he has continued to take the Duride® brand that he was initially prescribed, as well as the Imdur® from the hospital. | 7 | 6.61 | 0.70 | 7 |
| * Her husband needs a higher dose of isosorbide mononitrate to control his symptoms. | 1 | 3.72 | 2.27 | 7 |
| * Her husband could be experiencing an interaction between clopidogrel and pantoprazole resulting in an exacerbation of coronary symptoms. | 2 | 3.22 | 1.73 | 7 |
| * Her husband needs to increase the use of his GTN spray to improve his symptoms. | 1 | 3.56 | 2.09 | 1 |
| * Her husband should have aspirin added to decrease his chest pain symptoms. | 1 | 2.83 | 1.82 | 1 |
| * Her husband needs to increase his dose of pantoprazole because his chest pain may be due to worsening reflux. | 5 | 4.56 | 1.72 | 1 |

For Cases 7-9

* Very appropriate = 7
* Moderately appropriate = 6
* Only slightly appropriate = 5
* Neutral = 4
* Only slightly inappropriate = 3
* Moderately inappropriate = 2
* Totally inappropriate = 1

Case 7:

A slightly overweight, 70yo male patient is currently taking warfarin (dose is 5mg/4mg on alternate days). He dental prescription for an abscess for amoxycillin 500mg TDS and metronidazole 400mg TDS. Please indicate how appropriate each recommendation would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * Cease the warfarin whilst taking the antibiotics. | 1 | 1.78 | 1.52 | 1 |
| * Discuss the interaction with the patient and recommend an increase in INR monitoring whilst taking the antibiotics. | 7 | 6.89 | 0.32 | 7 |
| * Discuss the signs and symptoms of an increased INR with the patient. | 7 | 6.83 | 0.38 | 7 |
| * Recommend the dentist change the metronidazole to clindamycin. | 2 | 3.89 | 2.37 | 1 |
| * Recommend ibuprofen for pain relief for the dental abscess. | 1 | 1.44 | 0.86 | 1 |
| * Halve the warfarin dose whilst taking the antibiotics. | 1 | 2.44 | 1.89 | 1 |
| * Change the warfarin to aspirin whilst using the antibiotics. | 1 | 1.11 | 0.32 | 1 |

Case 8:

A 65yo female with airways disease has a recent dispensing history containing Seretide® 250/25 (2 puffs BD) Ventolin® inhaler (1-2 PRN). She presents a 3 month old prescription to the pharmacist for prednisolone 25mg reads ‘25mg BD for three days, then 12.5mg BD for three days’. On further discussion, the pharmacist determines patient is currently experiencing a worsening of the respiratory symptoms and is unsure what dose of prednisolone should be taking. Please indicate how appropriate each recommendation would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * Advise the patient not to take the prednisolone 25mg at all. | 1 | 2.11 | 1.88 | 1 |
| * Commence OTC pantoprazole 20mg daily to decrease the risk of GI bleeds whilst taking the prednisolone. | 1 | 2.28 | 1.41 | 1 |
| * Dispense the prescription as written and instruct the patient to take it with food. | 1 | 3.89 | 2.40 | 1 |
| * Contact the patient's GP and determine what prednisolone dose she should currently be taking. | 7 | 6.67 | 0.84 | 7 |
| * Advise the patient to cease the Seretide® whilst she is taking the prednisolone tablets. | 1 | 1.06 | 0.24 | 1 |
| * Advise the patient to increase the use of her Ventolin® inhaler in preference to using the prednisolone. | 1 | 1.89 | 1.28 | 1 |
| * Advise the patient to discuss with her doctor about increasing the strength of her Seretide® to the 500/50 Accuhaler. | 6 | 4.78 | 2.07 | 7 |

Case 9:

A 120kg, 40yo male smoker with osteoarthritis is taking esomeprazole 40mg daily, but currently has no GI symptoms. only other medication he is currently taking is regular paracetamol for his OA pain that he buys over-the-counter, dispensing history shows ketoprofen and cephalexin dispensed several months ago. Please indicate how appropriate each recommendation would be in this case.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Researchers | | | Writer’s answer |
| Mode | Mean | Std Dev |
| * Dispense the prescription with dietary advice about avoiding reflux triggers. | 5 | 4.17 | 1.79 | 1 |
| * Recommend the patient return to the GP to reduce his dose to 20mg daily. | 7 | 6.06 | 1.16 | 7 |
| * Recommend the patient return to the GP to trial using esomeprazole on a PRN basis. | 7 | 5.83 | 1.42 | 7 |
| * Discuss a weight management program with the patient. | 6 | 6.33 | 0.59 | 7 |
| * Discuss smoking cessation with the patient. | 6 | 5.89 | 1.41 | 7 |
| * Recommend the patient have his vitamin B12 levels checked. | 4 | 3.67 | 1.85 | 4 |
| * Recommend the patient stop the regular paracetamol and change back to ketoprofen to control his OA pain. | 1 | 1.22 | 0.73 | 1 |