

Teaching PRHO prescribing

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SUMMARY

Changes have occurred recently in the teaching syllabus in medical schools across the United Kingdom. These changes have taken the format of modular teaching with group participation and the grouping of topics such as anatomy, physiology and clinical medicine being combined. A short study was designed to assess if students of the new curriculum were competent at answering clinical questions that occur frequently, and common prescribing requests.

PARTICIPANTS

A study was carried out with 151 final year medical students, one week before their finals in May 2002. These students have experienced the new changes to the medical programme. All of the medical students were from Queen's University medical school. The study group was recruited from a cohort of medical students attending an all-day revision lecture in medicine and surgery. The faculty of medicine was consulted prior to setting up the revision lecture and this study. The participants in this study incurred no costs.

METHODS

Medical students were shown twelve questions (ward and pharmacology based) and asked to document their questions on the paper provided. One minute was allowed per question. These were collected at the end and marked by one examiner. Five Specialist Registrars in medicine had previously agreed on the answers. Some specific points were made to the final year students regarding the answers, prior to commencing the questions. For the questions regarding drug prescription (i.e. except question 1) it was specified that both dosage and frequency must be stated. Answers were regarded as incorrect if a dose was not stated, the drug prescribed in a sub-therapeutic dosage, or if a dangerously high dose was prescribed, e.g. Diazepam 100mg. Answers were correct if given in either the generic name or any trade name, e.g. both Maxalon and metaclopramide for question 8.

RESULTS

The questions and outcomes are shown in the

table overleaf. Most answers are self-evident, but with some specifics: For question 2, any benzodiazepine was accepted as correct, if prescribed in an appropriate dose. For question 5, a dose of either morphine 5-10mg or diamorphine 2.5-5mg was accepted, and for question 12, hydrocortisone 100mg IV, or adrenaline 1ml 1:1,000 IM or 1ml 1:10,000 IV were accepted. Answers containing solely the drug name were regarded as incorrect, as dosage and frequency were also required. For question 7, it was specified that the elevated potassium level had been checked twice, and the question related to medical treatment of the elevated potassium rather than confirming that it was not a spurious result. The answers to the remaining questions were as follows. Question 1: Heparin (no dose required). Question 3: Normal saline or saline 0.9%. Question 4: Paracetamol 1g or two tablets, 4-6 hrly or 6 hourly. Rectal administration was also accepted. Question 6: Clexane or Enoxaparin

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TABLE I
Percentage of correct response for each question

<i>Question</i>	<i>Percentage correct</i>
1. With what drug must an arterial blood gas sample be treated before analysis?	85
2. Prescribe an oral sedative used in alcohol withdrawal	67
3. What IV fluid would you use for someone with a head injury?	67
4. What is the correct dose and frequency and route options for administration of paracetamol?	65
5. What drug would you use for pain from a myocardial infarct, and what initial dose?	61
6. What is the usual prophylactic dose of Clexane, and what is the route of administration?	43
7. Prescribe the treatment for an elevated potassium of 7mmol/l	42
8. Please prescribe an anti-emetic.	36
9. When would you check Digoxin levels?	32
10. Please prescribe night sedation for a fit 65-year-old man.	28
11. Prescribe an antibiotic for a chest infection?	25
12. Name two drugs used in the initial management of an acute anaphylactic reaction to an antibiotic, the dose used, and the route of administration.	14

20mg subcut. daily. 40mg dose was also accepted. Question 7: 50mls of 50% dextrose with 10-15 IU actrapid insulin. Answers to this question were not scored as incorrect if prior calcium gluconate treatment was omitted. Question 8: Cyclizine 50 mg 8hrly, Metaclopramide 10mg 8hrly or other anti-emetic with correct dose and frequency. Question 9: Any time between 6 and 12 hours after the last dose was accepted. Question 10: Any sedative in appropriate dose, e.g. Temazepam 10mg nocte. Question 11: Antibiotics for either community or hospital acquired infection were accepted, in either oral or intravenous dosage. E.g. Co-amoxycylav 375mg t.d.s (oral), or 1.2g t.d.s (intravenous)

COMMENT

The above results suggest difficulties in prescribing drug treatment of some common hospital conditions. The question on the treatment of anaphylaxis scored the worst, with most of the medical students prescribing the wrong dose of adrenaline via the wrong route. Difficulties in prescribing the other drugs ranged from the wrong

dose to the wrong frequency. It is reassuring, however, that despite the fact that drug dosage and frequency are not part of final MB, the mean rate of correct prescribing was 42% when questions relating specifically to pharmacology are analysed, and questions 1, 3 and 9 are excluded.

Ideally, this study could have been used to compare the effect of the new curriculum on the correct response rate for this group of questions, compared to a previous cohort of final year students from the old curriculum. However, this could only have been done in a prospective study over two year groups, as a retrospective study cannot be used to acquire this kind of data.

Medical students are increasingly encouraged to attend ward rounds and be involved in the admission of medical patients. Universities across the U.K. have allocated periods during the academic year where final year medical students are ward based and are supervised by junior medical staff and consultants. In the United States, medical students are responsible for organising in-patient investigations, and must know all the

patients of the consultant for whom they are working. It may be feasible for medical schools in the U.K. to give more responsibilities (under direct supervision) to final year medical students and get them more actively involved in the care of patients. Prescribing at medical school is poorly taught and more time should be taken to institute organised lectures in common drug prescribing, closer to the start of the houseman year. A useful development has been the production of pocket formularies, which are now given to all PRHOs at the start of the year. This could be supplemented by the provision of a quick-reference card containing the doses and frequency of administration for drugs that are either commonly prescribed or used in an acute medical emergency¹⁻³.

REFERENCES

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