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REGISTRARS

Mastering your Fellowship

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Abstract

The series, "Mastering your Fellowship", provides examples of the question format encountered in the written examination, Part A of the FCFP(SA) examination. The series aims to help Family Medicine registrars prepare for this examination. Model answers are available online.

Keywords: FCFP(SA) examination, Family Medicine registrars

Introduction

This section in the *South African Family Practice* journal is aimed at helping registrars prepare for the FCFP (SA) Part A examination (Fellowship of the College of Family Physicians) and will provide examples of the question formats encountered in the written examination: Multiple Choice Question (MCQ) and/or Extended Matching Question (EMQ), Modified Essay Question (MEQ) and Critical Reading paper (evidence-based medicine). Each of these question types is presented according to a theme. The MCQs will be based on the ten clinical domains of family medicine, the MEQs will be aligned with the five national unit standards and the critical reading section will include evidence-based medicine and primary care research methods. We suggest that you attempt answering the questions (by yourself or with peers/tutors), before finding the model answers online: http://www.safpj.co.za/.

Please visit the Colleges of Medicine website for guidelines on the Fellowship examination: http://www.collegemedsa.ac.za/view_exam.aspx?examid=102

We are keen to hear about how this series is assisting registrars and their supervisors in preparing for the FCFP (SA) examination. Please email us your feedback and suggestions.

1. MCQ (single best answer question) Theme: Dermatology

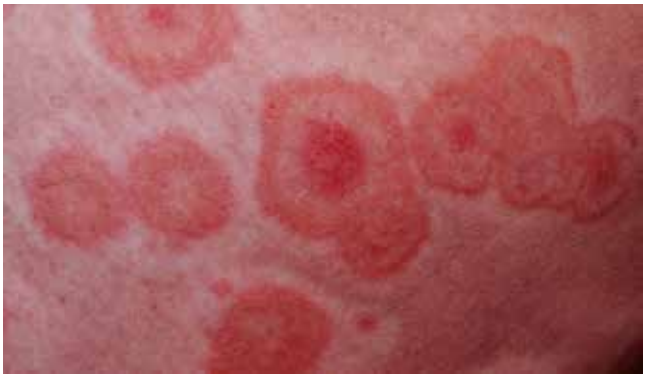

Figure 1: MCQ skin lesion

A 19-year-old female with no known co-morbidities presented with the above named rash (see **Figure 1**) for four days. It started on her arms and is now present on her trunk. She reports that the rash is itchy. She also states that she has had epigastric pain, nausea and a fever. She was clinically stable on examination with mild epigastric tenderness. The most appropriate management of this patient's rash is to:

a. Refer her to a dermatologist
b. Perform blood and other investigations
c. Reassure her and treat her symptoms
d. Prescribe topical steroids
e. Prescribe topical antifungals.

2. SAQ (short answer question): the family physician's role as champion of community-orientated primary care

You have been the Family Physician in a Community Health Centre (CHC) for the past year. The total patient population for this health facility is about 120 000. The team of medical practitioners comprises six medical officers, two community service doctors and four medical interns.

You have noticed that one of the challenges at the CHC relates to maternal and child health. The records at the antenatal clinic (ANC) and the midwife obstetric unit (MOU) indicate that there is a relatively high incidence of complications during pregnancy (pre-eclampsia/eclampsia and infections) and childbirth (intrapartum asphyxia, birth trauma and prematurity). Furthermore, many of these patients have comorbidities, particularly HIV/AIDS and pulmonary tuberculosis (PTB).

2.1 What would be your approach at this CHC to reduce the complications related to pregnancy and childbirth? (8 marks)

2.2 Who are the vulnerable groups with regards to PTB that you could identify using a COPC approach? (Mention two groups) (2 marks)

2.3 What would be the guiding principles for the junior colleagues under your supervision in the prevention of HIV/AIDS infection and TB management in pregnancy in this CHC? (4 marks)

2.4 How would you and your medical team bring awareness to the community (the catchment area of the CHC) regarding safety in pregnancy and childbirth? (6 marks)

3. Critical appraisal of research

Please answer the questions related to the following article:

Ogundokun AO, Abioye-Kuteyi EA, Bello IS, Oyegbade OO, Olowookere SA, Olowookere AJ. Effect of family-oriented interviews on family function of young persons attending the family practice clinic in Oauthc, Ile Ife, south-western Nigeria. South African Family Practice. Nov 2016 18;58(6):225-8. *(Total 40 marks)*

3.1 What was the aim of this study? (2 marks)

3.2 Briefly discuss your interpretation of the study design described in the article. (4 marks)

3.3 Why did the authors only recruit young persons in this study? (4 marks)

3.4 Briefly critique the authors' decision to categorise the APGAR scores into groups (see methods section). (2 marks)

3.5 What are the benefits and risks of translating a continuous variable into a categorical format (APGAR score as example)? (6 marks)

3.6 Critically review this excerpt from the methods section below. Your answer will be evaluated not for being right or wrong, but for the strength of your critique. (2 marks)

> Family relationship patterns were generated from the genogram and categorised as very close and not very close. This was generated for the relationship between the respondents and their parents and siblings.

3.7 Discuss the limitations mentioned by the authors. Which additional limitations would you also consider? (More than one correct answer is possible.) (8 marks)

3.8 Using the READER model for critical appraisal of this paper (Relevance, Education, Applicability, Discrimination, Evaluation, Response), outline your opinion of the paper. (12 marks)

Model answers to questions

Question 1

Short answer:

c)

Long answer:

This condition occurs commonly in primary care and is often misdiagnosed as urticaria or tinea corporis. The characteristic feature is a round "target" lesion with a central blister or red/purple area within a pale, oedematous plaque surrounded by a red halo. Erythema multiforme (EM) can present with varying grades of severity and is particularly common on the palms, soles, hands and face. The target lesions usually develop within 72 hours from the original erythematous papule. In most cases the presentation is mild and resolves within 7 days. Treatment for this form of EM is usually symptomatic. Erythema multiforme major is a severe form of this condition and can present with a life-threatening emergency with mucosal involvement and epidermal detachment (blisters) in up to 10% of the body surface area. These patients often need admission and referral to dermatologists for specialised care.

In most instances the cause of EM is not known and is thought to be due to viral infections such as Herpes Simplex, hence the need to examine the mouth for the typical painful lesions. Patients presenting with recurrent herpes simplex may also present with recurrent EM. Other causes include other viral or bacterial infections, drug hypersensitivity, contact exposure, preservatives and flavouring, collagen vascular diseases, certain foods, malignancy and hormonal causes. In many instances, no aetiological agent is identified.

Most cases of EM resolve spontaneously within 1-2 weeks without any scarring. The severe form of the disease is associated with additional morbidity and mortality and may leave scarring of the skin.

Further reading:

- Plaza J. Erythema Multiforme New York: WebMD Health Professional Network; 2016 [Available from: http://emedicine.medscape.com/article/1122915-overview
- Saxe N, Jessop S, Todd G. Handbook of Dermatology for Primary Care (2nd ed). Oxford University Press SA, 2007.
- The family medicine registrar often struggles to find resources to use when reading around common conditions occurring in clinical practice. There are various apps available on one's smartphone to improve point of care diagnosis and management. A useful app that contains pictorial depictions is the Medscape App that one can download. Registration to Medscape is free.

Question 2

Model answer:

2.1 What would be your approach at this CHC to reduce the complications related to pregnancy and childbirth? (8 marks)

Provide guidance based on national clinical guidelines (e.g. South African Guidelines for Maternal Health, 2015, WHO, 2003) aimed at reducing the complications during pregnancy and childbirth in the context of the district health services; auditing the quality of care to identify the key deficiencies and negative outcomes, followed by quality improvement cycles on staff training (OSMOE, BANC); liaising with the management and support services to ensure adequate resources, equipment and efficient supply chain functioning; guiding reflection on routinely collected data, building capacity through continuous training and role modelling; managing risk and improving patient safety through reflection on significant adverse events (e.g. morbidity and mortality meetings); assessing the competence of new clinicians and setting appropriate level of independence versus support; evaluating the quality of care in relation to the relevant clinically oriented national core standards (in particular patient rights, patient safety and clinical support services) using root

cause analysis methods (such as the Fishbone, '5 Whys' methods); and, critically appraising research evidence to address local problems.

2.2 Who are the vulnerable groups with regards to PTB that you could identify using a COPC approach? (Mention two groups) (2 marks)

Symptomatic but not investigated; on treatment but defaulted; children (under-5s) living with infected individuals (TB contacts), particularly those living in overcrowded settlements, in poorly resourced areas (no water and proper sanitation).

2.3 What would be the guiding principles for the junior colleagues under your supervision in the prevention of HIV/AIDS infection and TB management in pregnancy in this CHC? (4 marks)

The junior colleagues need to provide health education to patients on these infections according to current guidelines (*with reference to the South African guidelines on HIV/AIDS management and South African National Tuberculosis Guidelines*). The health education should focus on ways of preventing new HIV infections among women of childbearing age (emphasis on protected sexual intercourse); prevention of unintended pregnancies among women living with HIV; prevention of HIV transmission from a woman living with HIV to her baby and provision of appropriate treatment/care; and, supporting mothers living with HIV and their children and families (information on the medication & adherence). Regarding TB management in pregnancy: treatment should be initiated whenever the probability of TB is moderate to high. Drugs affecting the foetus (streptomycin, ethionamide, PAS and aminoglycoside) should be avoided.

2.4 How would you and your medical team bring awareness to the community (the catchment area of the CHC) regarding safety in pregnancy and childbirth? (6 marks)

- Attend community gatherings in collaboration with the community leaders to raise awareness on safety in pregnancy and childbirth.
- Request permission from relevant authorities to address community schools on the subject – the children can in turn serve as the vehicle to reach parents with the information leaflets.
- Ensure availability of information leaflets for distribution to patients at the CHC and the community. Ensure that the distribution is accompanied by the necessary explanation of the leaflet content.
- Involve the ward-based outreach teams (where available) to identify pregnant women and ensure attendance to ante-natal care and follow-up. In this way, pregnancy associated problems can be detected early for proper intervention.

Further reading:

- Health Professions Council of South Africa. Seeking Patients' Informed Consent: The ethical considerations (2nd edition), Booklet 10 [Internet]. [Cited 1 November 2014]. Available: http://www.hpcsa.co.za
- National Consolidated Guidelines for the prevention of mother-to-child transmission of HIV (PMTCT) and the management of HIV in children, adolescents and adults. NDoH, South Africa, 2015.
- Tuberculosis Management Guidelines 2014. NDoH, South Africa.
- Mgaya AH, Massawe SN, Kidanto HL and Mgaya HN. Grand multiparity: is it still a risk in pregnancy? BMC Pregnancy and Childbirth. 2013,13:241.
- Buso D, Reid S. Chapter 152: How to make a community diagnosis and prioritise health issues. In: Mash B, Blitz J, editors. South African Family Practice Manual. 3rd ed. Cape Town: Van Schaik; 2015. p497-500.
- Reid S. Chapter 9: Community-orientated primary care. In: Mash B, editor. Handbook of Family Medicine. 3rd ed. Cape Town: Oxford University Press Southern Africa; 2011. p. 315-31.
- Mash R, Blitz J, Malan Z, Von Pressentin K. Leadership and governance: learning outcomes and competencies required of the family physician in the district health system. South African Family Practice. 28 Feb 2016:1-4.
- Pattinson RC. Saving Babies 2010-2011: Eighth report on perinatal care in South Africa [Internet]. MRC Research Unit for Maternal and Infant Health Care Strategies on behalf of PPIP users. [Cited 13 January 2017]. Available from: http://www.ppip.co.za/wp-content/uploads/Saving-Babies-2010-2011.pdf

Question 3

Model answer:

3.1 What was the aim of this study? (2 marks)

Although not mentioned in the main text (the research aim is usually mentioned at the end of the introduction section, or at the start of the methods section), the abstract states that the authors aimed to assess how young people perceived their family function and the perceived effect on this of using a family-oriented interview method.

3.2 Briefly discuss your interpretation of the study design described in the article. (4 marks)

The authors employed a quasi-experimental, pre- and post-test study design. Although experimental in nature (an intervention was tested), the authors exposed all the participants to the intervention in view of its benefit (and, presumably, felt that it would be unethical not to employ the intervention in all study participants, due to its beneficial nature). The pre- and post-test design refers to the conduct of measurements before and after the exposure to the intervention for the same study population (longitudinal).

3.3 Why did the authors only recruit young persons in this study? (4 marks)

In the background section, the authors mentioned some statements from the literature, which confirm the benefits of a well-functioning family unit in the development of young adults (in terms of avoiding high-risk behaviour). Family dysfunction may cause depression and other negative long-term consequences. Although not explicitly stated, one may deduce that the authors wanted to study the effect of using the family-oriented interview method in the young adult population.

3.4 Briefly critique the authors' decision to categorise the APGAR scores into groups (see methods section). (2 marks)

Presumably, the authors collected the data on the APGAR score as continuous data (on a continuous scale). Whenever possible, data should be collected as a continuous variable, rather than as a categorical variable, as one has more statistical power and flexibility during the analysis. For example, it is better to collect the actual age rather than asking respondents to select which age category they fall within.

Here, the APGAR scores (family function) were categorised into three categories for descriptive purposes (presumably, this was done to make it easier for the reader to interpret the scores, although no rationale for this action was described in the article): highly functional (APGAR scores of 7–10), moderately dysfunctional (APGAR scores of 4–6), and severely dysfunctional (APGAR scores of 0–3).

However, for further analysis at the bivariate level using Pearson's chi-square, the authors elected to dichotomise the continuous data into two categories: functional (APGAR scores 7–10) and dysfunctional (APGAR scores 0–6). In Tables 2 and 3, the two sets of categories were compared in contingency tables (also called cross-tabulation tables or '2 by 2' tables) and a chi-square test was used to determine whether there was any significant difference. The benefits and risks of dichotomising continuous data are described in 3.5.

3.5 What are the benefits and risks of translating a continuous variable into a categorical format (APGAR score as example)? (6 marks)

What are the perceived advantages of forcing all individual measurements into two groups? It simplifies the statistical analysis and may lead to easy interpretation and presentation of results. A binary split (for example, at the median) leads to a comparison of groups of individuals with high or low values of the measurement, leading in the simplest case to a *t* test or chi-square ($\chi 2$) test and an estimate of the difference between the groups (with its confidence interval).

There is no good reason in general to suppose that there is an underlying dichotomy, and if one exists there is no reason why it should be at the median. Dichotomising leads to several problems. Firstly, much information is lost, so the statistical power to detect a relation between the variable and patient outcome is reduced. Secondly, one may seriously underestimate the extent of variation in outcome between groups, such as the risk of some event (family function in this case), and considerable variability may be included within each group. Individuals close to but on opposite sides of the cut-point are characterised as being very different rather than very similar. Thirdly, using two groups conceals any non-linearity in the relation between the variable and outcome.

(*One benefit and two risks should be sufficient in the model answer.*)

3.6 Critically review this excerpt from the methods section below. Your answer will be evaluated not for being right or wrong, but for the strength of your critique. (2 marks)

> Family relationship patterns were generated from the genogram and categorised as very close and not very close. This was generated for the relationship between the respondents and their parents and siblings.

The interpretation of the genogram is prone to subjectivity and no mention was made of how the authors standardised their approach to categorising the genogram patterns as very close and not very close. There is a large risk for inter- and intra-observer bias as numerous observers may have been used to generate and interpret the 221 (n) genograms, which were generated during interviews which spanned the study period of 18 weeks (substantial risk for error). This risk for bias may have skewed the results depicted in Table 3. No mention was made in the article on how the research team employed mechanisms to minimise the bias risk.

3.7 Discuss the limitations mentioned by the authors. Which additional limitations would you also consider? (More than one correct answer is possible) (8 marks)

Guidance to answering the question (not part of model answer):

Does the student critically question (as the reader):

- Whether the article is relevant to primary care or family medicine? (relevance)
- Whether the article could change the reader's behaviour? (education)
- Whether the research could be done in or applied to the reader's own practice context? (applicability)
- Whether the findings are scientifically valid? (discrimination)
- Whether the paper should be considered seriously (evaluation). Summary evaluation of the paper using the READER score.
- What the reader should do with the paper? (reaction)
- Over 20: Classic paper that should make an immediate impact on practice, this article needs to be brought to a practice meeting and discussed. 15-20: Average paper, keep a record if it was interesting or of particular relevance to you, perhaps keep a note of the reference and abstract. Under 15: Forget about it (NB: explanation of all ranges of score NOT required)

Two marks for demonstrating an understanding within each READER component (using critical appraisal).

Example of a model answer:

Relevance:

This article is relevant to the discipline of family medicine, as it reports on the potential benefits of employing a family-centred interviewing method (which is well aligned with the core principles of the discipline).

Education:

The study may provide new knowledge on factors associated with the interplay between a family-orientated interview method and improved perceived family function, although the

factors identified are not entirely new or surprising. Educational value probably limited.

Applicability:

This study reported on the benefit of employing a family-orientated interview in the family practice clinic of Obafemi Awolowo University Teaching Hospital, Ile Ife, south-western Nigeria. No further information on the study setting is provided, although one may deduce that this is an urban setting and not clearly a primary care setting (a teaching hospital is typically a higher level hospital, where referred patients are seen). The study population demographics provide sufficient information for the reader to relate with their own practice population. The family centred interview method seems to be well received and made a difference during the study period. The study therefore is applicable at the level of the individual patient, although this is not transferrable to the typical primary care setting.

Discrimination:

The authors described several limitations, as mentioned above. The reader needs to take cognisance of the additional concerns raised (study participant selection, study setting and data analysis methods described earlier). In quasi-experimental research the lack of random assignment into test groups leads to reduced internal validity and can limit the generalizability of the results to a larger population.

Evaluation:

This article reports on the value of employing a family-oriented interview method when consulting young adults in primary care. The authors discussed the study's findings in relation to the existing literature and did well to demonstrate statistically significant results without any described sample size calculation. However, the limited educational impact and the limitations of the study design (sampling strategy and data analysis) makes this a "paper with less than average educational value" in terms of its evaluation.

Reaction:

The article may help the reader to reflect on their current practice, such as employing a family-oriented interview method when consulting with young persons, as this may help to identify and address family dysfunction in their families.

The usefulness score lies under 15, as the study design seems to have some major issues.

Further reading:

- Mash B, Ogunbanjo GA. African Primary Care Research: Quantitative analysis and presentation of results. African Journal of Primary Health Care & Family Medicine. 2014;6(1).
- Govender I, Mabuza LH, Ogunbanjo GA, Mash B. African primary care research: performing surveys using questionnaires. African Journal of Primary Health Care & Family Medicine. Jan 2014;6(1):1-7.
- Altman DG, Royston P. The cost of dichotomising continuous variables. BMJ. 4 May 2006;332(7549):1080.
- Pather M. Continuing professional development. In Mash B (Ed) Handbook of Family Medicine (3rd ed). Cape Town: Oxford University Press; 2011. p. 406 -29.
- Denscombe M. The good research guide: for small-scale social research projects. McGraw-Hill Education (UK); 1 Aug 2014.

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