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REGISTRARS

Mastering your Fellowship

Klaus B von Pressentin[1*], Mergan Naidoo[2], Bob Mash[1]

[1]*Family Medicine and Primary Care, Stellenbosch University*
[2]*Family Medicine, University of KwaZulu-Natal*
[*]*Corresponding author, email: kvonpressentin@sun.ac.za*

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 is aimed at helping family medicine registrars prepare for this examination. Model answers are available online.

Keywords: FCFP (SA) examination, family medicine registrars

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 are presented according to a theme. The MCQ's will be based on the ten clinical domains of family medicine, the MEQ's 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. EMQ (extended matching questions) Theme: Upper limb complaints (orthopaedics)

1.1 A 62-year old female presents with a painful base (volar aspect) of the right ring finger, which is held in flexion. Extension of the finger is associated with painful clicking and often requires help of her other hand.

1.2 A 28-year old male known with generalised clonic-tonic epilepsy disorder presents with a painful right shoulder following a convulsion. His arm is held in internal rotation and adduction.

1.3 A 38-year old female complains of experiencing paraesthesia in her right, dominant hand, especially in the early morning hours, waking her from sleep. She denies any history of trauma.

1.4 A 74-year old male presents with a painful right shoulder after a mechanical fall at home. The outer contour of the right shoulder appears abnormal and his arm is held in slight abduction.

1.5 A 40-year old male complains of a painful right wrist after falling onto his outstretched, extended right hand. Pain in the anatomical snuff box area of his wrist is worsened with thumb-compression and resisted supination.

For each of the patient scenarios listed **ABOVE** choose the most likely option from the list **BELOW**. Each option may be used once, more than once, or not at all.

Options:

A. A pre-manipulation radiograph offers little advantage and delays definitive treatment of this dislocation variant.

B. Diagnosis is made by careful examination of the fingers during flexion and extension with no investigations needed.

C. Plain X-rays of the affected area should be considered which may need to be repeated at a later stage in a symptomatic patient if normal initially.

D. An alternative diagnosis of nerve root compression due to cervical spondylosis may be excluded on clinical grounds.

E. An AP film alone is adequate to rule out this dislocation variant, as the AP film often demonstrates pathognomonic radiological signs.

F. Diagnosis is usually clinical but ultrasound examination has proven to be very useful for diagnosis and treatment.

G. Physical examination is a clinically specific tool to identify a fracture of this carpal bone.

H. Magnetic resonance imaging is considered the investigation of choice (or ultrasound in resource constrained settings) if persistent pain and weakness is experienced by the patient at the 2-week follow-up visit.

I. The ideal image for identifying this condition is an axillary film, with the patient's arm in abduction and the image taken through the axilla.

2. MEQ (modified essay question): the family physician's role as leader and supervisor

You are the family physician employed at a district hospital that was allocated a community service medical officer (CSMO). The CSMO signed a contract with the human resources division that stipulated that he will be doing commuted overtime as this was a requirement for the job. He also signed the annual commuted overtime contract indicating that he will perform Group 2 (5–12 hours per week) overtime. After commencing work he wanted to opt out of his overtime but the medical manager refused as the needs of the hospital would be compromised. Despite repeated attempts to stop his commuted overtime he could not reach agreement with the hospital management. After a few months he informed the senior staff that he will not be doing the overtime for the forthcoming month but he was told that he would be put on the roster for the Emergency Centre. He did not report for duty on the night that he was supposed to be on duty and was also not contactable. Patient care was compromised during the night as the hospital was not able to get another doctor to fill the vacant call slot.

2.1 Describe the principles involved in contracting with doctors to perform commuted overtime in the public sector. (2 marks)

2.2 Analyse the professional behaviour of the doctor in line with your ethical principles. (12 marks)

2.3 What options are available to you and the hospital management team to deal with this matter further? (6 marks)

3. Critical appraisal of research

Please answer the questions which follow in relation to the linked article:

Booysen BL, Schlemmer AC. Reasons for diabetes patients attending Bishop Lavis Community Health Centre being non-adherent to diabetes care. South African Family Practice. 2015 May 4;57(3):166–71.

Available online from URL: http://www.tandfonline.com/doi/abs/10.1080/20786190.2014.977027 (Accessed 10 June 2016)

Introduction (8 marks)

3.1 Summarise the argument that the authors make for the social value of this study (4 marks)

3.2 Summarise the argument that the authors make for the scientific value of this study (4 marks)

Methods (23 marks)

3.3 How do qualitative researchers decide on a sample size? (4 marks)

3.4 Critically appraise the approach to sample size used in this study? (2 marks)

3.5 What is meant by purposeful sampling in qualitative research? (4 marks)

3.6 Critically appraise the approach to sampling used in this study? (4 marks)

3.7 Explain the key characteristics of an "in-depth interview"? (4 marks)

3.8 The authors state that the framework method was used for content analysis. Describe the steps that you would expect to see in this or a similar approach to qualitative data analysis? (5 marks)

Findings (6 marks)

3.9 In qualitative research the issue of transferability is used instead of generalisability to make sense of the external validity of the findings. Critically appraise the article in terms of how transferable the findings are to your own practice setting? (6 marks)

Discussion/Conclusion (13 marks)

3.10 The authors state that triangulation was used to improve the validity of the study. Explain what you understand by the concept of triangulation in qualitative research and critically appraise their claim? (4 marks)

3.11 How well do you think the authors accounted for the reflexivity of the researchers? (3 marks)

3.12 Reflect on whether reading this study is likely to change your practice? (6 marks)

Model answers to questions

Question 1

Short answer:

1.1 B

1.2 I

1.3 F

1.4 H

1.5 C

Long answer:

1.1 B – A trigger finger is caused by inflammation and constriction of the retinacular sheath through which the flexor tendons run as they pass from the palm of the hand into the finger. Usually, only one finger is affected in the dominant hand. However, when associated with diabetes or underlying arthritis, more than one digit may be affected, which warrants examining all the fingers.

1.2 I – This scenario describes a posterior dislocation of the shoulder which account for only 2 – 4% of shoulder dislocations. Most patients present after a traumatic fall or following a seizure (remember non-epileptic causes of seizures) or electrocution. The axillary film should be done together with the standard AP and lateral views of the shoulder following a shoulder injury. Option E is incorrect: the classic radiological signs depicting a posterior dislocation on an AP view, such as the lightbulb sign, may not be present, as this view is mostly normal near normal.

The lightbulb sign may also be visible due to incorrect positioning of the patient when taking the x-ray.

1.3 F – This patient suffers from carpal tunnel syndrome, which occurs most commonly in women in the 30 – 60 year age group. Median nerve compression may occur in early rheumatoid arthritis with synovial tendon sheath thickening or reduced space in the carpal tunnel following old Colles' or carpal fractures. Option D is incorrect, as nerve conduction tests are necessary to differentiate carpal tunnel syndrome from symptoms produced by cervical spondylosis.

1.4 H – In patients with anterior shoulder dislocations, one has to consider associated humeral fractures or rotator cuff tears in the group older than 60 years. For this reason, option A is wrong (and dangerous), as any associated fractures with the dislocation need to be identified prior to manipulation. Similarly, clinical neurological examination pre-manipulation is required and findings need to be documented. These precautions are necessary to confirm whether a fracture or nerve injury was due to the original injury or caused by the treating doctor during the manipulation attempt. Option E is also incorrect, as more than one x-ray view of the shoulder, such as a lateral or axillary view, are required to exclude an associated fracture (fracture-dislocation). Option H is correct, as close clinical follow-up in the period shortly after the initial reduction is recommended. If the clinical picture does not improve, surgical repair may be performed. Significant pain and weakness in the shoulder at 2 to 4 weeks after glenohumeral dislocation is an important reason for an imaging investigation. Magnetic resonance (ultrasound imaging in low resource settings) is used to confirm clinically suspected rotator cuff tears. Literature has shown that functional outcomes are improved in patients whose rotator cuffs were repaired before 3 weeks and that better pain relief was obtained if operated before 3 months.

1.5 C – The scaphoid is the most commonly fractured carpal bone. Initial x-rays of the scaphoid may appear normal and this warrants a high clinical index of suspicion. Suspected scaphoid fractures require a thumb spica splint and a follow-up arrangement to review the patient with repeated x-rays in 10–14 days. Option G is incorrect, as the physical signs of anatomical snuffbox tenderness, thumb-compression induced pain and pain elicited by resisted supination, are all associated with high sensitivity but poor specificity. This means that physical examination is a poor tool to rule-in a scaphoid fracture (as opposed to other carpal or distal radial fractures).

Further reading:

- McRae R. Pocketbook of orthopaedics and fractures. Elsevier Health Sciences; 2006.
- Brown J. Wrist and Distal Forearm Injuries: Pearls & Pitfalls. Practice Updates. emDocs [Internet]. 7 November 2015 [cited 10 June 2016]. Available from: http://www.emdocs.net/wrist-and-distal-forearm-injuries-pearls-pitfalls/
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- Laubscher PH, Collin PG, Gain SM. Complicated shoulder dislocation in the elderly patient. SA Orthopaedic Journal. 2008 Mar;7(1):72–7.
- Wheeless CR. Trigger Finger/Tenosynovitis. Wheeless' Textbook of Orthopaedics [Internet]. [Cited 10 June 2016]. Available from: http://www.wheelessonline.com/ortho/trigger_finger_tenosynovitis
- Henton J, Jain A, Medhurst C, Hettiaratchy S. Adult trigger finger. BMJ 2012;345:e5743.

Question 2

Model answer:

2.1 Describe the principles involved in contracting with doctors to perform commuted overtime in the public sector. (2 marks)

Commuted overtime was finalised as a legislative mandate in the Public Service Bargaining Council (PSCBC). This was intended to be a flexible system of averaging doctors overtime working hours over a specified period of time. As an example one may work 5 hours per week at a certain point in time and then 12 hours per week at another point in time but the average over the year should be around 8 hours per week if one is performing Group 2 commuted overtime.

2.2 Analyse the professional behaviour of the doctor in line with your ethical principles. (12 marks)

The doctor's behaviour should be construed as being unprofessional and unethical for the following reasons:

i. If he required a re-negotiation of his terms of employment and had compelling reasons for wanting to do so this should have been negotiated in a mutually acceptable manner based on a processes defined in the Labour Relations Act (LRA).

ii. "Best interest or well-being: Beneficence: Healthcare practitioners should act in the best interests of patients even when the interests of the latter conflict with their own personal self-interest."The principle of beneficence, defined above is self-explanatory and is enshrined in the Health Professions Council of South Africa (HPCSA) guidelines for Good Practice.

iii. The principle of non-maleficence by ensuring that one does no harm to patients even when these interests conflict one's own self-interest. Patient care was clearly affected in this scenario.

iv. Justice as an ethical principle would be involved here in terms of the legal/legislative rules that apply and might be transgressed – respect for morally acceptable laws. Also respect for the rights of patients – to access health care. The HPCSA guidelines also defines what it means to have an institutional duty based on a job description or a job contract and one's responsibility to the institution.

2.3 What options are available to you and the hospital management team to deal with this matter further? (6 marks)

i. As a leader it is important that one is proactive when faced with such situations in the workplace. When the CSMO first intimated that he wanted to withdraw from overtime, it is important that the reasons for such a request are explored in a confidential and non-threatening environment. Discussions aimed at finding common ground should have occurred and the consequences of a one-sided withdrawal should have been outlined. Problems identified could have been dealt with using the Employee Assistance Programme.

ii. The effect of this dereliction of duty would constitute a fairly serious offence and would require the constituting of a disciplinary hearing in which the doctor is entitled to representation by his labour union. Owing to the serious nature of the offence the employer can recommend a final written warning or even recommend dismissal of the employee.

iii. The HPCSA guidelines for good practice in health care also make provision for healthcare practitioners "to report violations and seek redress in circumstances where they have good reason to believe that the rights of patients are being violated and/or where the conduct of the practitioner is unethical." The complaint is lodged with the HPCSA and the HPCSA has its own disciplinary processes. If found guilty by the disciplinary committee of the HPCSA the doctor could be liable for a suspension from practicing, a suspended sentence, a fine and a black mark against his certificate of good standing. A combination of these outcomes is also possible.

General comment (not part of model answer):

This case scenario speaks directly to unit standards 1 (effectively manage him/herself, his/her team and his/her practice, in any sector, with visionary leadership and self-awareness, in order to ensure the provision of high-quality, evidence-based care) and 5 (conduct all aspects of health care in an ethical and professional manner) in the professional portfolio.

Further reading:

- Moodley K. Chapter 12: Family medicine ethics. In: Mash B, editor. Handbook of family medicine**,** 3rd edn. Oxford University Press Southern Africa; 2011.
- Health Professions Council of South Africa. Guidelines for Good Practice in the Health Care Professions. Ethical and Professional Rules of the Health Professions Council of South Africa as Promulgated in Government Gazette R717/2006 HPCSA Pretoria; 2007.

Question 3

Model answers:

Introduction (8 marks)

3.1 Summarise the argument that the authors make for the social value of this study (4 marks)

Diabetes is a major contributor to the burden of disease in South Africa and disproportionally impacts poor and disadvantaged communities. Treatment involves adherence to both pharmaceutical and non-pharmaceutical (lifestyle) related issues. Non-adherence to the management plan is widely recognised. The majority of patients are not well controlled. Understanding the factors that impact on adherence in our context may help to improve care, adherence and outcomes.

3.2 Summarise the argument that the authors make for the scientific value of this study (4 marks)

Existing studies identified 5 categories of measures for adherence in patients with diabetes (behaviour change, relationships, outcomes and process targets, taking medication and others). A range of factors are known to impact on adherence (e.g. non-acceptance of diagnosis, absence of symptoms, divergent cultural beliefs, chronicity of disease, comorbidity, mental illness, affordability of health diet, etc.)

In the Western Cape we have information on the technical quality of care as per the medical record audits. These audits have not included the patient's perspective on the care they receive. This study would offer insight into the patient's perspective from the community served by Bishop Lavis CHC.

Methods (23 marks)

3.3 How do qualitative researchers decide on a sample size? (4 marks)

A qualitative sample is not intended to generate numerical information that can be generalised to the whole study population. It is not necessary therefore to perform a statistical sample size calculation. The sample is intended to be sufficient to explore the phenomenon of interest and the quality of the people's experience and willingness/ability to share their experience are the key factors. Typically the concept of saturation is used to determine a sample size – interviewing enough people to the point at which no new themes are emerging. Usually the researchers commit to interview a minimum number of people (5–15 people) and to then continue interviewing until saturation is obtained. This may require some kind of concurrent analysis of the data.

3.4 Critically appraise the approach to sample size used in this study? (2 marks)

This study included 22 people interviewed through three focus groups (8 people, 8 people and 6 people) and 7 individual interviews. So altogether the study included the views of 29 people. This is certainly consistent with the usual numbers of people included in qualitative research. However the authors make no reference to how they decided on these numbers or to the concept of saturation. The limitations section also implies that more individual interviews might have been needed to fully explore the issue.

3.5 What is meant by purposeful sampling in qualitative research? (4 marks)

In qualitative research participants are usually selected purposefully because they are likely to be information rich and to help the researcher fully explore the phenomenon of interest. There are various approaches to implementing this such as extreme case sampling, criterion sampling,

snowball sampling, purposeful random sampling. The quantitative approach of probability sampling (each person having an equal chance of selection by means of randomisation, systematic sampling, etc.) do not apply, non-probability sampling is used.

3.6 Critically appraise the approach to sampling used in this study? (4 marks)

Criterion based purposeful sampling was used with a set of inclusion and exclusion criteria. Inclusion criteria were diabetes, attending the club, uncontrolled diabetes, poor adherence to medication or poor adherence to healthy diet or defaulted or who are overweight/obese. A balance of men and women was also intended. The article does not describe in detail how these specific participants were selected in practice based on these criteria. The article also states that the individual interviewees were sampled conveniently, which implies they were selected more for the convenience of the interviewer than because they met pre-determined criteria.

3.7 Explain the key characteristics of an "in-depth interview"? (4 marks)

An in-depth interview should go deep into understanding the person's experience, beliefs, ideas, concerns, values and so on. In order to do this the interviewer must have communication skills in active listening (open questions, reflective listening statements, summaries, facilitative non-verbal responses) and a genuinely open curious and empathic approach to the person. An interview guide is used to ensure the topic(s) are fully explored and all potential areas explored. The guide should not be used in a question-and-answer type manner as if it were a questionnaire.

3.8 The authors state that the framework method was used for content analysis. Describe the steps that you would expect to see in this or a similar approach to qualitative data analysis? (5 marks)

In general content analysis follows a similar process in most methods and the following steps would be evident:

- Transcribe the audiotapes verbatim and check that they are accurate
- Familiarise yourself with the data by listening to the tapes and reading the transcripts
- Identify the key codes needed to analyse the data and organise them into a thematic index under a number of categories
- Use these codes to code all of the data sources systematically
- Bring together the data related to a single code or category in one chart where it can be viewed in an integrated way
- Interpret the chart in terms of the type and range of themes as well as the relationships or associations between themes
- Validate your interpretation by checking with the respondents (not always possible or desirable)

Findings (6 marks)

3.9 In qualitative research the issue of transferability is used instead of generalisability to make sense of the external validity of the findings. Critically appraise the article in terms of how transferable the findings are to your own practice setting? (6 marks)

In order to transfer the findings to one's own setting you need to look at the context of the study and whether this is similar to one's own setting. This also requires that the researchers describe their context in sufficient detail. In this article the Bishop Lavis context is described in terms of the community served and the nature of the health services. For someone from a South African context, the main readership of this journal, the description is probably sufficient. The candidate should reflect on the similarity to their own practice context.

The second issue to look at is the source of information – who was interviewed using purposeful sampling. In this case adult patients, from a poor urban community, with uncontrolled type 2 diabetes and poor adherence. The interviewees are well defined in the study. The candidate should reflect on whether their practice population is similar or not.

Discussion/Conclusion (13 marks)

3.10 The authors state that triangulation was used to improve the validity of the study. Explain what you understand by the concept of triangulation in qualitative research and critically appraise their claim? (4 marks)

Triangulation refers to improving the trustworthiness of the study by corroborating the findings from different types of individuals, different types of data, or methods of data collection. In this study the researchers combined data from both focus group interviews and individual interviews (different methods of data collection), but used the same type of data (qualitative) and the same type of individuals (same criterion used in selection, although they separate men and women in two focus groups).

Their argument is conceptually unclear as they mix up the different methods of data collection with the components of how they collected the data (e.g. tape recordings are not a separate data source but likely to have been used in all methods). Research notes could be seen as the viewpoint of the researcher, but are more likely to have been used to help interpret the primary data source – no quotes are derived from the researcher's notes. The value of combining data from focus group interviews and individual interviews is discussed in the methods. Focus groups were constructed to ensure that different genders were able to express their views. The individual interviews were intended to compensate for any views that might be hidden due to the social dynamics inherent in focus groups. One suspects that focus groups were chosen for their ability to collect data from many people at the same time rather than because the social dynamics were a desirable aspect of the method.

3.11 How well do you think the authors accounted for the reflexivity of the researchers? (3 marks)

Reflexivity refers to how aware the researcher was as to the influence of themselves on the collection, analysis

and reporting of the findings. The researcher's own views, prejudices, pet theories or bias may have undue influence if the researcher is unaware of it or acting alone. One would expect the authors to give some information on who the researchers were and how they attempted to be reflexive.

The limitations section gives some information about the principal researcher. There is no information about the role or person of the second researcher. There is no explanation of how they "tried to be objective and neutral as possible".

3.12 Reflect on whether reading this study is likely to change your practice? (6 marks)

Candidates should ideally use the READER format to reflect on their answer:

- Relevance: Is it about family medicine?
- Education: Does it challenge my knowledge?
- Applicability: Does it apply to my situation?
- Discrimination: What is the scientific value of the article?
- Evaluation: What is my evaluation, based on the above?
- Reaction: How can I use this information?

Further reading:

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- Mabuza LH, Govender I, Ogunbanjo GA, Mash B. African Primary Care Research: Qualitative data analysis and writing results. African journal of primary health care and family medicine. 2014 Jan;6(1):1–5.
- Pather M. Chapter 13: Continuing professional development. In: Mash B, editor. Handbook of Family Medicine. 3rd ed. Cape Town: Oxford University Press Southern Africa; 2011: p. 406–429.
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