

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) Final 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) in the form of Single Best Answer (SBA – Type A) and/or Extended Matching Question (EMQ – Type R); Modified Essay Questions (MEQ)/Short Answer Question (SAQ) and questions based on the Critical Reading of a Journal (evidence-based medicine). Each of these question types is presented based on the College of Family Physicians blueprint and the key learning outcomes of the FCFP programme. 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. This month's edition is based on unit standard 2 (Evaluate a patient according to the bio-psycho social approach), unit standard 3 (Facilitate the health and quality of life of the family and community) and unit standard 1 (critically appraising quantitative research). We suggest that you attempt answering the questions (by yourself or with peers/supervisors), 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. SBA (single best answer question): Women's Health

1. A 52-year-old woman who is a known hypertensive patient on hydrochlorothiazide and enalapril presents to you with symptoms of hot flushes, irritability, amenorrhoea for 3 months and insomnia. On examination, she is noted

to have a body mass index of 30 kg/m², blood pressure = 138/76, pulse = 80/minute. She has no other significant family, surgical or medical history and reports that she has been hypertensive for the last 10 years. What is the most appropriate treatment of her symptoms?

- Prescribe a natural remedy such as St. John's wort.
- Prescribe a selective serotonin reuptake inhibitor.
- Prescribe cyclical oestradiol and medroxyprogesterone acetate.
- Reassure and prescribe Calcium and Vitamin D.
- Reassure her that this is just temporary and should resolve.

Short answer:

c)

Long answer:

There has been considerable debate on the risks and benefits of treating menopausal symptoms since the release of the findings from the Women's Health Initiative (WHI) Study. The study demonstrated an increased risk of cardiovascular events when hormone replacement therapy (HRT) was prescribed. However, secondary analysis by Roussouw et al. demonstrated that HRT was protective when initiated in women under the age of 60 who present with severe symptoms including the vasomotor symptoms.

However, it is still important to adequately assess your patients and risk stratify them for risk of breast cancer, venous thromboembolism and cardiovascular risk. One needs to also caution patients against the withdrawal bleed that may occur as a consequence of the cyclical HRT. The potential benefits in terms of the vasomotor symptoms, mood and fracture risk needs to be considered against the potential harm. It is important to emphasise the importance of keeping abreast with routine health screening such as breast self-examination and mammography. There also needs to be a review of the menopausal symptoms at three months to assess effectiveness and tolerability and an

annual review to reassess clinical indications and treatment adverse effects. If symptoms persist despite treatment, these patients may need referral to a specialist gynaecologist.

Natural remedies may have some benefit but there has been concern about their appropriate dosing, the persistence of symptoms, variability in the preparations and the drug interactions of such remedies. No strong evidence exists to support their long-term use.

In this patient, it is also important to counsel her about weight loss by maintaining a healthy diet and regular exercise. The process of aging rather than HRT has been associated with weight gain.

Contraindications to HRT are

- i. Known or suspected oestrogen-dependent malignant tumours
- ii. Undiagnosed genital bleeding
- iii. Untreated endometrial hyperplasia
- iv. Previous idiopathic or current venous thromboembolism
- v. Known arterial coronary artery disease
- vi. Active liver disease
- vii. Porphyria
- viii. Thrombophilia

Further reading:

1. South African Department of Health (2015). Hospital Level Adult Standard Treatment Guidelines and Essential Medicines List. Pretoria, National Department of Health
2. Rossouw JE, Prentice RL, Manson JE, Wu L, Barad D, Barnabei VM, et al. Postmenopausal hormone therapy and risk of cardiovascular disease by age and years since menopause. *JAMA*. 4 Apr 2007;297(13):1465-77.
3. National Institute for Health and Clinical Excellence (2015) Menopause: diagnosis and management. NICE, London. Available from: <file:///E:/Current%20projects/Publications/Mastering%20your%20fellowship/November%202017/menopause-diagnosis-and-management-pdf-1837330217413.pdf>

2. SAQ (short answer question): The family physician's role in the family and community

Your sub-district has decided to implement ward-based outreach teams (WBOT) and to focus initially on child health. As the local family physician, you have been asked to help lead the group planning this.

- 2.1 Explain who you would expect to be included in such a ward-based outreach team. (3)

The WBOT is meant to include a number of community health workers (6–15) who would be co-ordinated by a nurse (the type of nurse varies according to policy and availability) and supported by a doctor. National policy also mentions health promoters and environmental health officers.

- 2.2 Describe six key principles of community-orientated primary care (COPC) that your planning would need to operationalise. (6)

Any six reasonable principles of COPC can be accepted. The following are possible:

- i. The community served should be delineated in terms of a geographical or functional boundary.
- ii. Facility-based and community-based health care workers must work together as an integrated team.
- iii. Services offered should be comprehensive (health promotion, disease prevention, treatment, rehabilitation, palliative care) using a generalist approach and not restricted to one disease or vertical programme.
- iv. COPC requires knowledge of the local health needs (community diagnosis).
- v. COPC requires knowledge of the organisations and resources in the community (institutional analysis).
- vi. COPC should improve equity in terms of access to appropriate, affordable and relevant healthcare.
- vii. COPC should be based on data and information collected from the household and community (practice with science).
- viii. COPC should integrate services around the needs of users. It should therefore be person-centred and collaborative, building partnerships between people who need care and provide care (community engagement, community health forums)
- ix. COPC should enhance continuity of care with people over time, both informational and relational.
- x. COPC should identify, prioritise and respond to the health needs of the community.

- 2.3 Outline six specific activities that the WBOT could engage with in relation to child health. (6)

When community health workers visit households in the community they might collect specific routine information about children and their health risks: e.g.

- i. Growth of children and identify those that are failing to thrive or malnourished.
- ii. Immunisation status of children and those that are not up to date.
- iii. Vitamin A supplementation and those that have not received this.
- iv. Infants that are HIV exposed and need testing for HIV at 6-weeks.

When community health workers visit households in the community they might promote health in the following ways: e.g.

- i. Promote breastfeeding
 - ii. Promote de-worming / do de-worming
 - iii. Promote the use of oral rehydration solution
 - iv. Educate about danger signs of illness
 - v. Educate about care seeking behaviour
 - vi. Uptake of antenatal and postnatal care
- 2.4 Describe the role of the family physician in relation to the WBOT? (2)

The family physician would most likely support a number of WBOTs attached to a specific clinic or health centre or within a specific sub-district. He/she would need to help with the training and capacity building of the team members and help the team with critical thinking and rational planning at either the individual, household or community level.

- 2.5 Describe three concerns that you might have regarding the implementation of WBOTs? (3)

There are a number of potential concerns with WBOTs. Any three (or other acceptable responses) are satisfactory:

- i. Who should employ the community health workers? Some have outsourced CHWs via non-government organisations and risk being in contravention of the Labour Act Amendment.
- ii. What level of remuneration should they receive? Some pay very low wages and no benefits via NGOs while others pay according to the public service levels.
- iii. How many households (people) can a CHW reasonably be expected to visit if working part-time or full-time and if being comprehensive.
- iv. What approach should be adopted to training of CHWs. Balance between classroom based teaching versus experiential on-the-job learning.
- v. The role of the CHWs in a number of areas (e.g. non-communicable chronic diseases) is unclear. There is a risk of everybody adding to the job description which becomes unrealistic and beyond the competency of a CHW.
- vi. There are concerns with professionalism and confidentiality as the CHWs are non-professional and would have access to personal information of people in their own community. There is also the issue of how much access they should have to the person's medical records.

[20]

Further reading

1. Marcus T. A practical guide to doing COPC. Lynnwood: Minuteman Press, 2015.

3. Critical appraisal of research

Please answer the questions related to the following article:

Roy SK, Hossain MJ, Khatun W, Chakraborty B, Chowdhury S, Begum A, et al. Zinc supplementation in children with cholera in Bangladesh: randomised controlled trial. *BMJ (Clinical research ed.)*. 2008;336(7638):266-8. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2223005/>

Total: 30 marks

Zinc supplementation in children with cholera in Bangladesh: randomised controlled trial.

- 3.1 Is this an experimental or observational study? (1)

This is an experimental study as the treatment (zinc supplementation or placebo) was controlled by the investigators and randomly allocated to children with cholera.

- 3.2 What were the aims of this study? (1)

To investigate the impact of zinc supplementation on diarrhoea in children with cholera.

- 3.3. What are the conclusions of the study? (2)

Zinc supplementation significantly reduced the duration of diarrhoea and stool output in children with cholera. Children with cholera should be supplemented with zinc to reduce its duration and severity.

- 3.4 What concerns do you have about the study? (4)

- i. Were the children who were recruited a random sample from the target population (children with diarrhoea caused by cholera)?
- ii. Could the differences in baseline weight for age in the two groups potentially confound the association between zinc supplementation and duration of diarrhoea?
- iii. Are the dropouts a cause for concern?
- iv. Despite this being a randomised study, there is still a possibility of confounding by chance given the small numbers involved.

- 3.5 What factors need to be taken into consideration when calculating sample size in any quantitative study? (6)

- i. Type of study (descriptive or analytical study)
- ii. For a descriptive study one needs to know:
 - a) Whether you are measuring continuous variables or categorical variables.
 - b) Size of the confidence interval (typically 95%).
 - c) Standard deviation of the variable you are interested in.
- iii. For an analytical study

- a) Need to consider the power of the study (power is the ability to detect a difference that is present – i.e. the probability that the null hypothesis is rejected).
- b) The sample size and the difference you want to detect.
- c) The variability in the data and the type of outcome variable.

3.6 What affects the power of a study? (3)

- i. The size of the sample (power increases as sample size increases).
- ii. The variability in the population (power increases as variability decreases).
- iii. The size of the effect that one wants to detect (power increases as the effect gets larger).
- iv. The level of Type 1 error, alpha (power increases as alpha increases – it becomes easier to reject null hypothesis).

3.7 What is a type 1 error? (1)

A type I error is the (false) detection of an effect that is not present.

3.8 What conclusions are you able to draw from Table 1? (4)

- i. The baseline characteristics of the two groups were similar, with a p-value of > 0.05 with respect to age, sex, weight, height, duration of diarrhoea before admission, stool volume and rehydration status, suggesting that there was not significant difference between the control group and intervention group.
- ii. There was a significant difference ($p < 0.05$) between the groups when looking at the median weight for age. Whether this is clinically significant or not could impact the outcome of the study and this has not been adequately considered in the final analysis.

3.9 With reference to Table 2 what do you understand by the 95% confidence interval of (67.4, 78.6) hours for duration of diarrhoea in the control group? (4)

The 95% confidence interval of (67.4, 78.6) reflects a range of values for the true average duration of diarrhoea in the control group, suggesting that the true average duration of diarrhoea in the control group may be as low as 67.4 hours or as high as 78.6 hours. The 95% confidence interval means that the true result for this population is 95% likely to lie between these two values.

3.10 With reference to Table 2 what is meant by the p-value of 0.028 for duration of diarrhoea? (2)

As the p-value in this study is less than 0.05, we can reject the null hypothesis that there's no difference between the means and conclude that a significant difference does exist between those children who received zinc and the placebo group.

3.11 Would a p-value of 0.028 suggest that the relationship between zinc supplementation and duration of diarrhoea is causal? (2)

As this was a randomised study where children were randomly allocated to receive zinc or placebo one might consider the relationship to be causal as any observed effect could be attributed to the supplementation. However, given the small number of participants and the statistically significant differences in weight for age at baseline, it is still possible that this is confounding by chance.

Further reading:

1. Mash B, Ogunbanjo GA. African Primary Care Research: Quantitative analysis and presentation of results. Afr J Prm Health Care Fam Med. 2014;6(1), Art. #646, 5 pages. Available from: <http://dx.doi.org/10.4102/phcfm.v6i1.64>.

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