UNIVERSITY OF JAFFNA, SRI LANKA

SECOND EXAMINATION FOR MEDICAL DEGREES PART (II) – May 2023
Academic Year 2017/2018

Community and Family Medicine-Paper II

Date: 10.05.2023   9 am to 12 noon. (3 hours)

Answer all the **six** questions
Answer each question in a separate answer book.

1. A 43-year-old diabetic patient, presented to the family health centre with a history of fatigue for three weeks. She is a housewife with three children and is separated from her husband.

1.1. List five (05) differential diagnoses for the above clinical presentation.

(10 marks)

1.2. Name five (05) complications due to diabetic mellitus.   (20 marks)

1.3. List five (05) clinical activities in a family health centre which could prevent the occurrence of complications due to diabetes mellitus.   (30 marks)

1.4. Briefly discuss how her family influences her management of diabetes mellitus.

(40 marks)

2. The increase in food prices and loss of income has reduced access to nutritious food. The government is commencing a voucher programme to improve access to food. The distribution of vouchers will take place through Medical Officers of Health (MOH).

2.1 As MOH, outline the steps you will take to deliver the above programme in your MOH area.   (30 marks)

2.2 The number of vouchers available for each MOH area is limited. Give the criteria with justification for prioritising the households for the voucher programme.

(20 marks)

2.3 List four (04) sources of data you could use to identify the households that will receive the vouchers based on your selection criteria.   (20 marks)

2.4 Discuss the role of community mobilization for addressing food insecurity in Jaffna district.   (30 marks)

3. A study was conducted to determine the performance of a screening test in identifying the non-alcoholic fatty liver disease (NAFLD) among 338 volunteers with average age of 50.8 years. The prevalence of NAFLD was 31.07% (95% CI: 26.30% to 36.15%). When the screening test was applied among the confirmed NAFLD cases in this study, it identified 90 persons as positive for NAFLD. The specificity of the test was 92.7%.

| | | Diagnostic test | | Total |
		Positive	Negative	
	Positive	90	17	107
Screening test	Negative	15	216	231
Total		105	233	338

3.1 Discuss your choice of measure of central tendency and measure of dispersion to describe the age of the participants. (20 marks)

3.2 Explain the following to a lay person.

3.2.1 Prevalence of NAFLD was 31.07% (95% CI: 26.30% to 36.15%) (20 marks)

3.2.2 The specificity of the test was 92.7%. (20 marks)

3.3

3.3.1 Calculate the positive predictive value (PPV) (10 marks)

3.3.2 Explain the positive predictive value of this screening test to a lay person. (10 marks)

3.4 Describe the Figure 1 below. (20 marks)
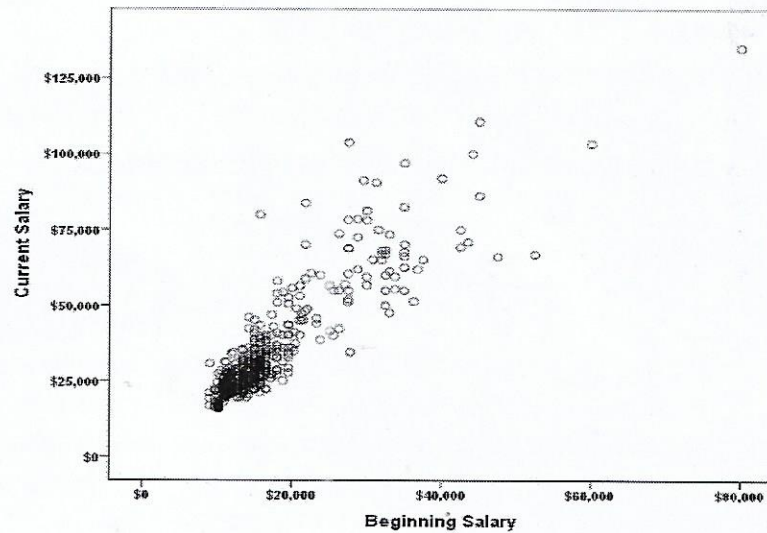
Figure.1

4. During the COVID-19 pandemic, the maternal mortality ratio increased globally.

4.1 Define the Maternal Mortality Ratio. (15 Marks)

4.2 Describe how the COVID-19 pandemic affected Maternal Mortality Ratio in Sri Lanka. (35 Marks)

4.3 Briefly discuss the strategies that district health authorities can take to prevent maternal deaths in a similar situation in the future. (50 marks)

5 The morbidity and mortality of cardiovascular diseases are on the rise. Evidence-based interventions are useful in reducing mortality and will help improve the patients' quality of life. High-quality **systematic reviews** are considered reliable sources to develop **evidence-based guidelines** for clinical practices.

5.1 Briefly describe the terms in bold letters. (20 marks)

5.2 Briefly describe the roles of databases in systematic reviews (20 marks)

5.3 The Table 1 shows a systematic review of the Rehabilitation Effect of Different Intensity Exercises:

     a. Traditional aerobic exercise such as walking, running, and cycling moderate continuous training (MCT-50-70% oxygen consumption) and

     b. High-intensity interval training (HIIT- oxygen consumption of 70-90%)

on patients with Cardiovascular Diseases (Yu et al., 2022).

Table 1

Study	Experimental Total	Mean	SD	Control Total	Mean	SD	MD	95%-CI	Weight
Type = Coronary heart disease									
Trachsel LD et al. (6) 2020	33	22.10	5.8000	18	22.20	5.8000	-0.10	(-3.68; 3.48)	7.0%
Villelabeitia et al. (7) 2017	37	26.94	4.8500	36	22.78	4.5300	4.16	(2.01; 6.37)	10.7%
Janeguizar KV et al. (14) 2016	36	24.00	4.8000	36	22.80	6.5000	1.20	(-1.44; 3.84)	9.3%
Cardozo GG et al. (15) 2015	23	24.40	5.0000	24	21.50	6.0000	2.50	(-0.65; 5.65)	8.0%
Prado DM et al. (16) 2016	17	22.30	1.1000	18	23.00	1.3000	-0.70	(-1.50; 0.10)	14.5%
Random effects model	146			132			1.33	(-0.62; 3.28)	49.6%
Hetrogeneity: $I^2 = 80\%$, $\tau^2 = 3.3640$, $p < 0.01$									
Type = Heart failure									
Mueller S et al. (10) 2021	60	20.20	6.0000	60	19.80	5.8000	0.40	(-1.71; 2.51)	10.9%
Donelli et al. (11) 2020	10	19.60	3.5000	9	18.50	3.7000	1.10	(-2.15; 4.35)	7.8%
Moholdt TT et al. (12) 2009	28	30.40	5.5000	31	28.50	5.6000	1.90	(-0.93; 4.73)	8.8%
Wisloff U et al. (13) 2007	9	19.30	2.1000	9	14.90	1.9000	4.40	(2.55; 6.25)	11.7%
Lellamo F et al. (17) 2014	18	18.20	3.0000	18	18.80	3.0000	-0.60	(-2.56; 1.36)	11.3%
Random effects model	125			127			1.47	(-0.41; 3.34)	50.4%
Hetrogeneity: $I^2 = 73\%$, $\tau^2 = 3.0916$, $p < 0.01$									
Random effects model	261			259			1.39	(0.10; 2.68)	100.0%
Hetrogeneity: $I^2 = 78\%$, $\tau^2 = 2.8203$, $p < 0.01$									
Test for subgroup differences: $\chi_1^2 = 0.01$, df = 1 ($p = 0.92$)									
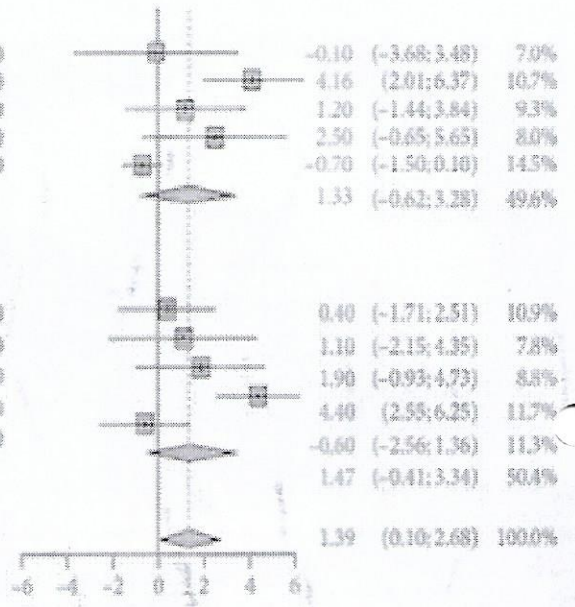
5.3.1 Mention the role of meta-analysis in systematic reviews. (10 marks)

5.3.2 Using the Table 1 briefly describe the effect of two different exercise intensities on cardiac rehabilitation. (25 marks)

5.4 Briefly discuss the role of community-based rehabilitation (25 marks)

6 Write short notes on the following.

6.1 Red flag signs (25marks)

6.2 Formal food sampling (25 marks)

6.3 4R in waste management (25 marks)

6.4 Absolute contraindications for vaccination (25 marks)