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POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR MD (COMMUNITY MEDICINE/ COMMUNITY DENTISTRY) – JULY 2023

Date:- 20th July 2023 **Time:-** 9.00 a.m. – 10.00 a.m.

STRUCTURED ESSAY QUESTION PAPER

Answer both questions.
Answer each question in a separate book.

1. You have received funds to conduct a study to determine the effectiveness of an educational intervention to reduce problematic internet use among grade 9 students in a selected district.

1.1. State giving reasons, the most suitable study design for evaluating this research problem. (20 marks)

1.2. State the factors that you would consider when calculating the sample size for this study. (20 marks)

1.3. Describe how you would select and allocate participants to groups, minimizing bias and confounding. (30 marks)

1.4. State two (02) outcomes you would assess and briefly describe how you would measure them ensuring validity and reliability. (30 marks)

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2. A case–control study was conducted to determine the risk factors for thromboembolism in COVID-19 patients. The main analysis of this study is given in table 1.

Table 1: Unadjusted and adjusted analysis of risk factors for thromboembolism in COVID-19

Predictor variables	**Unadjusted Odds ratio (95% CI)**	**Adjusted Odds ratio (95% CI)**
Age >40 years	1.33 (1.02-2.56)	0.96 (0.91–1.04)
Male sex	3.66 (1.08-12.88)	3.55 (0.78–19.6)
Biomarker X level >0.5 µg/mL	2.65 (1.23-4.98)	2.39 (1.15–4.84)
Current smoker	1.76 (1.24-2.09)	1.66 (1.07 – 2.73)
Body Mass Index <25 kg/m^2	0.55 (0.33-0.85)	0.58 (0.32-0.91)

2.1. Discuss advantages and disadvantages of the study design used. (20 marks)

2.2. Interpret the findings of this study. (50 marks)

2.3. Biomarker X level is available as a continuous variable and physicians want to use it as a predictor of thromboembolism in patients with COVID-19. They seek advice from you regarding further analysis that can be done to determine the usefulness of Biomarker X as a predictor of thromboembolism in the clinical setting.

Outline the further analysis you would conduct. (30 marks)