



NATIONAL OPEN UNIVERSITY OF NIGERIA

Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, University Village,

Jabi-Abuja

SEPTEMBER 2020_1 EXAMINATION

PROGRAMME: NURSING SCIENCE

CREDIT UNITS: 2

COURSE CODE: NSC409

TIME ALLOWED: 2 HOURS

COURSE TITLE: INTRODUCTION TO HEALTH STATISTICS

TOTAL MARKS: 70%

INSTRUCTION: ANSWER ALL THE QUESTIONS

Question 1

(a) Describe biostatistics (2 marks)

(b) Describe the different types of data with relevant examples (20 marks)

(c) Explain the relationship between the following terms: Ratios, Proportions, Percentages and Risk (8 marks)

Question 2

(a) Consider a survey of nurses' opinions of their working conditions. What type of variables are: (i) length of service (ii) staff grade (iii) age (iv) salary (v) number of patients seen in a day (vi) Educational level. (12 marks)

(b) The blood group of 55 women diagnosed as suffering from thromboembolic disease and 145 healthy women are displayed in Table below.

Blood group	Women with thromboembolic disease	Healthy women	Total
A	32	51	83
B	8	19	27
AB	6	5	11
O	9	70	79
Total	55	145	200

Blood group distribution for healthy women and those with thromboembolic disease

- (i) Display the blood group data for the 55 thromboembolic women as a bar chart. (4 marks)
- (ii) Display the blood group data for the 55 thromboembolic women and 145 healthy women using a clustered bar chart. Can you see if there is a difference in the blood groups between the thromboembolic women and healthy women? (4 marks)

Question 3

(a) Define Absolute Risk Reduction (ARR) (1 mark)

(b) The table below shows epidural analgesia data from a randomised controlled trial of labouring in water compared with standard augmentation for management of dystocia in first stage of labour. Use the data obtained from the study to answer the questions below

Epidural analgesia at any stage of labour (Augmentation)	Intervention (Labour in water)	Control
Yes	23	33
No	26	17
Total	49	50

- (i) What is the proportion of women that had an epidural in each of the two groups?
- (ii) What is the relative risk of the use of an epidural for the labour in water women compared with the Augmentation women?
- (iii) Calculate the OR of epidural for the labour in water women compared with Augmentation women. Compare this estimated OR with the RR estimate from part ii: what do you notice?
- (iv) Find the absolute risk difference for the use of an epidural for labour in water compared to Augmentation. (19 marks)