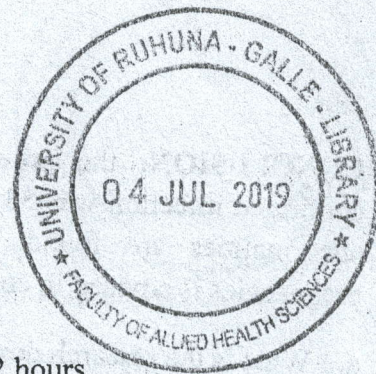


FACULTY OF ALLIED HEALTH SCIENCES
UNIVERSITY OF RUHUNA, GALLE
DEPARTMENT OF NURSING
4th END SEMESTER EXAMINATION



Statistics & Epidemiology in Nursing (NSE 2226)-SEQ

Date: 04th June 2019

Time: 9.30 a.m.-11.30 a.m.

Duration: 2 hours

Index Number:

Part A

1. The following abstract was appeared in the Journal of Clinical Microbiology and Infections in 2019. Read the abstract and answer the questions given below.

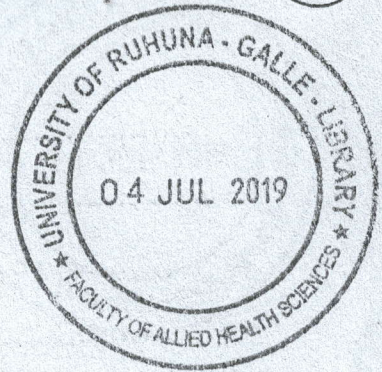
Title: Pregnancy outcomes after maternal Zika virus infection in a non-endemic region

OBJECTIVES: to describe pregnancy outcomes after Zika virus (ZIKV) infection in a non-endemic region.

METHODS: according to the Spanish protocol issued after the ZIKV outbreak in Brazil in 2015, all pregnant women who had travelled to high-burden countries were screened for ZIKV. Serological and molecular tests were used to identify ZIKV-infected pregnant women. They were classified as confirmed ZIKV infection when reverse-transcriptase polymerase chain reaction (RT-PCR) tested positive, or probable ZIKV infection when ZIKV-immunoglobulin M and/or immunoglobulin G and ZIKV plaque reduction neutralization tests were positive. Women found positive by molecular or serological tests were prospectively followed-up until delivery on a monthly basis, with ultrasound scans and neurosonograms; magnetic resonance and amniotic fluid testing were performed after signed informed consent. Samples of placenta, and fetal and neonatal tissues were obtained

RESULTS: seventy-two pregnant women tested positive for ZIKV infection; ten were confirmed by RT-PCR, and 62 were probable cases based on serological tests. The prevalence of adverse perinatal outcomes was 33.3% (3/9, 95%CI, 12.1-64.6%): two cases of congenital ZIKV syndrome (CZS) and one miscarriage, all born to women infected in the first trimester of gestation. All ZIKV-confirmed women had persistent viremias beyond two weeks (median 61.50 days (IQR 35.50-80.75)). Amniotic fluid testing was only positive in the two fetuses with anomalies

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Index Number:

Part B

1. Explain briefly the following terms.

a. Epidemic (25 marks)

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b. Double blind procedures (25 marks)

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c. Secondary prevention

(25 marks)

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d. Case study

(25 marks)

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Statistics & Epidemiology in Nursing (NSE 2226)-SEQ

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Index Number:

Part C

1. A study was conducted to see whether there is an association between gender and back pain. Twenty percent of male and 40% of female participants investigated were found to be having back pain. Two hundred males and 200 females participated in the study.

a. What is the study design used in this research? (10 marks)

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b. State your null and alternative hypotheses (20 marks)

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c. What is (are) the test(s) that you can use to test your null hypothesis (10 marks)

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d. Test your hypothesis at $\alpha = .01$ level (60 marks)
(Chi square tables and Z tables should be provided.)

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b. List four conditions that should be satisfied by a good screening test?

(40 marks)

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c. List four conditions that should be fulfilled by a disease to be suitable for screening

(40 marks)

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