

Background

- In 11-15% of women worldwide, sepsis is the leading cause of maternal death (1, 2).
- The Sepsis Six care bundle (SSCB), based on the systemic inflammatory response syndrome (SIRS) criteria, was introduced with the aim of delivering all six elements of the bundle within one hour of sepsis being diagnosed.

Objectives

1. To estimate the incident of sepsis disease in pregnancy.
2. To evaluate the compliance with the use of sepsis six care bundle.
3. To evaluate the SIRS criteria in the identification of sepsis cases.
4. To assess the specificity and sensitivity of the current SIRS criteria in diagnosing sepsis in obstetric wards.

Method

STUDY DESIGN AND SETTING

- A prospective observational cohort study
- Three-month period from 11th April to 1st July 2016
- Three maternity units situated in a single health region

STUDY POPULATION

Women admitted to these maternity wards during the study period who **RECEIVED ANTIBIOTIC THERAPY** for a suspected or confirmed diagnosis of sepsis

DATA ANALYSIS

- IBM Statistical Package for the Social Sciences (SPSS) version 23
- Descriptive; number(%)
 - Binary logistical regression
 - Receiver operating characteristics

SEPSIS SIX: Triggers: Sign of infection and 2 SIRS
SUSPECTED INFECTION?
WHAT ARE THE SIRS?
TIME ZERO? (complete sepsis six in 1 hour)

1. Oxygen to achieve Saturations >94%, ≤98%
Time Initials
- Blood Cultures and relevant swabs
Time Initials
- Take Lactate, Fbc, Crp, U+E, Coag, G+S, +/-ABG
Time Initials
- Antibiotics intravenous (as per local guidelines)
Time Initials
- IV fluids challenge
Time Initials
- Note urine Output, fluid balance, consider catheter
Time Initials
- Sepsis six Completed within 1 hr of Time Zero YES/NO
- Comments
- Name Designation
- Signature Date

Results

Total of 2960 Women admitted during the study period

Total of 89 Women diagnosed with sepsis (3%)

16 cases excluded due to data missing

Total of 73 Women included in the analysis

DEMOGRAPHIC

- Age: 19-45 years; Mean age of 29.8 ± 5.3
- Obesity – BMI ≥30 kg/m²: n=22 (27.8%)

Mode of delivery

- Emergency C/section: n=41 (46.1%)
- Spontaneous vaginal delivery: n=22 (24.7%)
- Instrumental delivery: n=14 (15.7%)

Unit of admission

- Postnatal/antenatal: n=80 (89.9%)
- HDU: n=7 (7.9%)
- ITU: n=2 (2.2%)

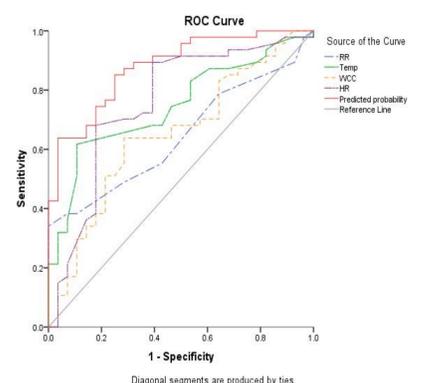
Total of 33 Women had the Sepsis Six sticker

- Oxygen: n=9 (27.3%)
- Blood test and culture/swab: n= 32 (97%)
- IV antibiotic: n=31 (93.9%)
- IV fluid: n=31 (93.9%)
- Catheter: n=26 (78.8%)

Within one hour → n=2

BINARY LOGISTIC REGRESSION

- An overall accuracy of 81.1%
- PPV = 84.8%
- NPV = 75%
- Respiratory rate was included in the logistic regression model, but its value was not significant ($p=0.056$)
- With a one unit increase in the temperature while holding the other variables constant, there was a 3.83 (95%CI=1.53-9.55) increase in the chance of developing sepsis.



	Unstandardized beta weight	Standardized beta weight	p value	OR (95%CI)
Temperature	1.343	0.257	0.004	3.83 (1.53-9.55)
Respiratory Rate	0.236	0.239	0.056	1.26 (0.99-1.61)
White cell count	0.165	0.265	0.002	1.18 (1.06-1.31)
Heart rate	0.061	0.217	0.010	1.06 (1.01-1.11)

Conclusion

- This study has found that the use of the sepsis six care bundle is limited, but it is not yet known if this limitation is due to the difficulty of diagnosing sepsis in obstetric women.
- Both temperature and white cell count seem to drive the diagnosis of sepsis in these women
- Further qualitative research involving medics and healthcare providers is needed to determine the factors behind this phenomenon and to identify possible interventions

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