Research proposal of;

Prevalence, indications and outcome of cesarean section at Dongola Maternity Hospital

Years 2023,2024,2025

Submitted by:

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Introduction and Background

Cesarean section (C/S) is the surgical procedure that intended to deliver through the abdomen rather than vaginally, it considered lifesaving procedure for the mother and/or the fetus in most of the cases. It had been observed that rate of c/s is rising globally, and often exceeding the rate that set by WHO in many clinical setting around the word. WHO set a rate of 10-15 % for c/s beyond which no benefit can be gained regarding maternal or fetal adversities (1).

Indications for c/s are diverse including obstetrical, medical and non-medical reasons, it had been reported that psychosocial indication may be emerging indication in last years and may play partially in increasing rates of c/s in contemporary practice (2).

The outcome of c/s is usually excellent owing to advancement in anesthetic techniques, surgical skills and antibiotics, but still c/s is not immune from complications to mother and her baby. One systemic review and metanalysis revealed The common neonatal complications following Caesarean section included low APGAR score, perinatal asphyxia, neonatal sepsis, meconium aspiration syndrome, early neonatal death, stillbirth, and prematurity whereas febrile morbidity, surgical site infection, maternal mortality, severe anemia, and postpartum hemorrhage were the most common maternal complications following Caesarean section (3).

Problem statement.

Cesarean section is associated with many maternal and fetal complication that may jeopardize their lives and increasing rate of c/s could burden the already depleted health services in low resources setting, thus ensuring valid indications for this commonly performed surgery may aid in holding down rising rates of c/s especially primary c/s.

Rationale

It has been observed rates of c/s is rising in the study area especially primary c/s which should be objectively asserted, additionally no data is available in the study area addressing rates, common encountered indications or outcome associated with c/s, that could assess the current practice regarding cesarean deliveries and hence guide suitable strategies to mitigate adversities associated with c/s, furthermore study data could be preliminary for further studies and reevaluation.

Objectives

General: to determine rate, indications and outcome related to c/s at Dongola maternity hospital in years 2023, 2024 and 2025.

Specific:

1. To identify clinical and sociodemographic characteristic of women undergoing c/s.
2. To compare local c/s rate with other regional and international institutions.

Methodology

Study design: retrospective analytical hospital-based study.

Study area: Dongola Maternity Hospital, located in Dongola city, Northern state, Sudan.

It's the main referral hospital in the state, dedicated in offering comprehensive health services in the field of obstetrics and gynecology.

Study population: all medical reports of women delivered by c/s at Dongola Maternity Hospital during the years 2023, 2024 and 2025.

Inclusion criteria: medical records of all women delivered by c/s in defined years of the study.

Exclusion criteria: files with incomplete records.

Data collection: data will be extracted from patients' files, labour room registry, NICU registry and operating theatre logs.

Study variables

Dependent variables: Rate of c/s

Indications of c/s (repeated scar, preeclampsia, FTP, ,,,etc)

Outcome of c/s (maternal, fetal and early neonatal)

Independent variable: Age, residence, occupation, parity, gestational age……etc

Data analysis

Analyzed data will be represented as descriptive statistics in term of frequency tables with percentages and graphs. Descriptive analysis will be performed for all study variable with mean and standard deviation for quantitative data, and frequencies with proportion for qualitative data. bi-variable analysis to determine the association between the main dependent variable and relevant independent variables using Chi square test for categorical variables and t-test for quantitative variables.

P value of 0.05 or less is considered significant. statistical analysis will be performed by computerized program (Statistical Package for Social Sciences).

Data presentation:

Data will be presented after analysis in form of univariable tables, cross tabulation (bi variable tables) multivariable tables, figure and narrative illustration.

Ethical Consideration

The proposal will be presented to ethical committee at ministry of health- Northern state- Sudan.

permission will be obtained from the hospital administrative authority.

Timeline outlines

Phase 1 Proposal preparation 1-2 weeks.

Phase 2 Ethical approval 1-2 weeks.

Phase 3 Data extraction and collection 3- 4 months.

Phase 4 Data cleaning and analysis 1- 2 weeks.

Phase 5 Final report and preparation of manuscript 2- 4 weeks.

References.

1. Betran AP, Torloni MR, Zhang JJ, Gülmezoglu AM; WHO Working Group on Caesarean Section. WHO Statement on Caesarean Section Rates. BJOG. 2016 Apr;123(5):667-70. doi: 10.1111/1471-0528.13526. Epub 2015 Jul 22. PMID: 26681211; PMCID: PMC5034743.
2. Stjernholm, Y. V., Petersson, K., & Eneroth, E. (2010). Changed indications for cesarean sections. Acta Obstetricia et Gynecologica Scandinavica, 89(1), 49–53. https://doi.org/10.3109/00016340903418777
3. Gedefaw, Getnet, et al. "Prevalence, indications, and outcomes of caesarean section deliveries in Ethiopia: a systematic review and meta-analysis." *Patient safety in surgery* 14.1 (2020): 11.