

Sudan University of Science and Technology
College of Graduate Studies

**Evaluation of Serum Biochemical Markers and Pro-
Inflammatory Cytokines in the Early Diagnosis of Neonatal
Bacterial Sepsis**
(A Study in Riyadh, Kingdom of Saudi Arabia)

تقويم الموسمات الكيميائية والسيتوكينات قبل الالتهابية في التشخيص المبكر للأخماج لدى حديثي الولادة
(دراسة في الرياض- المملكة العربية السعودية)

**A Thesis is submitted for the fulfillment of the degree of PhD in Medical
Laboratory Science, Clinical Chemistry**
Mohamed Abdelfatah Abdelmounim

Supervisor:

Professor Alfadil Al Obaid Omer
Professor of Microbiology

Co-supervisors:

Dr. Amre Nasr, Associate professor of Immunology
Dr. Tarig Karar, Associate professor of Clinical Chemistry

August (2017)