



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكرو فيلم

بسم الله الرحمن الرحيم



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



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Impact of qSOFA Score on the Outcome of Patients in ICU with Respiratory Tract Infection

Thesis
For Partial Fulfilment Of Master Degree
In Chest Diseases

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2021

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ

سُبْحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

صدقة الله العظيم

سورة البقرة الآية: ٣٢

Acknowledgment

*Thanks first and last to **ALLAH**, the real support and the guidance in every step in our life.*

*I'd like to start by sending my deepest respectful thanks and profound gratitude to my spiritual father and teacher **Prof. Dr. Khaled Mohamed Wagih Helmy** Professor of Chest Diseases Faculty of Medicine, Ain Shams University, for his keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work. My respect and admiration to him on professional and personal levels help no limits.*

*I am also delighted to express my deepest gratitude and thanks to **Prof. Dr. Ashraf Adel Gomaa**, Assistant Professor of Chest Diseases, Faculty of Medicine, Ain Shams University, for his kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

Special thanks to all patients on whom and for whom this work has been done and without them it was never going to appear.

*No words can describe the support and the encouragement of **my lovely family**.*

Mohamed Younes Kedis

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List of Abbreviations

<i>Abb.</i>	<i>Full term</i>
ACR	American college of radiology
APACHE	Acute physiology and chronic health evaluation
ARDS	Acute respiratory distress syndrome
ARI	Acute respiratory infection
ATS	American thoracic society
BAL	Bronchoalveolar lavage
BUN	Blood urea nitrogen
CAP	Community-acquired pneumonia
CDC	Centers for Disease Control
COVID-19	Coronavirus disease 2019
CPK	Elevated creatine phosphokinase
CRP	C-reactive protein
CT	Although chest computed tomography
ED	Emergency department
ESBL	Extended spectrum beta-lactamase
ESICM	European Society of Intensive Care Medicine
ESR	Erythrocyte sedimentation rate
HAP	Hospital-acquired pneumonia
HCAP	Healthcare-associated pneumonia
ICUs	Intensive care units
IDSA	Infectious Diseases Society of America
ILI	Influenza-like illnesses
IQR	Interquartile range
LDH	Elevated lactate dehydrogenase

<i>Abb.</i>	<i>Full term</i>
LMICs	Low-and middle-income countries
LOD	Logistic organ dysfunction
LRTI	Lower respiratory tract infection
MDR	Multidrug resistant
MEWS	Modified early warning score
MODS	Multiple organs dysfunction score
MPM	Mortality prediction model
MRSA	Methicillin-resistant S. Aureus
NEWS	National early warning score
ODIN	Organ dysfunction and infection system
OprD	Outer membrane porin channel
PSI	Pneumonia severity index
PT	Elevated prothrombin time
qSOFA	Quick Sequential Organ Failure Assessment
SAPS	Simplified acute physiology score
SARI	Severe acute respiratory infection
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2
SCCM	Society of Critical Care Medicine
SIRS	Systemic inflammatory response syndrome criteria
SIRS	Systemic inflammatory response syndrome criteria
SOFA	Sequential organ failure assessment
SOFA	Severe organ failure assessment
TRIOS	Three-day recalibrating ICU outcomes
VAP	Ventilator-associated pneumonia
WBCs	White blood cells
WHO	World health organization

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Introduction

Acute respiratory infection (ARI) is a major cause of morbidity and mortality worldwide and tends to be a rapidly progressive illness due to pathogens having the potential for large scale epidemics. According to the World Health Organization (WHO), these annual epidemics result in 3–5 million severe illness cases and 290–650 thousand deaths all around the world. Influenza-like illnesses (ILI), a subset of ARIs, accounted for approximately 1.9 million deaths in children below 5 years of age worldwide in 2010 (*Willams et al., 2012*).

In addition to the ILI outpatient surveillance, the WHO recommended the member states to start a monitoring for severe ARIs (SARIs) in hospitalized patients after the 2009 influenza pandemic (*WHO, 2014*).

Severe acute respiratory infection (SARI) is one of the leading causes of sepsis among adults. Identifying patients with SARI and sepsis having higher risk of mortality is crucial to anticipate prognosis and follow treatment program. Many severity-scoring systems have been developed to assess the severity of these patients. Current guidelines suggest the use of various severity scores such as CURB-65 and pneumonia severity index (PSI) in order to classify patients with community-acquired pneumonia (CAP) (*Mandell et al., 2017*).

In 2016, the third international consensus definitions for sepsis and septic shock proposed a new definition and a scoring system based on sequential (sepsis-related) organ failure assessment (SOFA) score instead of systemic inflammatory response (SIRS) criteria, which has been used to define sepsis for a long time. In addition, the Sepsis-3 task force proposed the quick SOFA (qSOFA) as a simpler scoring system for the initial screening of patients at high risk for sepsis (*Bone et al., 2018*).

The qSOFA score is a bedside prompt that may identify patients with suspected infections who are greater risk for poor outcome in the intensive care unit (ICU) (*Singer et al., 2016*).

The introduction of the quick Sequential Organ Failure Assessment (qSOFA) score thus represents the effort to identify high risk patients as early as possible by using basic clinical criteria instead complex biomarkers (*Seymour et al., 2016*).

The score includes respiratory rate, Glasgow Coma Scale and systolic blood pressure, based on the analysis preceding the current sepsis definition algorithm. A score of at least two points is considered positive. Several publications have reported the correlation between a positive qSOFA score and poor outcome in septic patient (*Freund et al., 2017*).

score ranges from 0 to 3 points. The presence of 2 or more qSOFA points near the onset of infection was associated with a greater risk of death or prolonged intensive care unit stay. These are outcomes that are more common in infected patients who may be septic than those with uncomplicated infection. Based upon these findings, the Third International Consensus Definitions for Sepsis recommends qSOFA as a simple prompt to identify infected patients outside the ICU who are likely to be septic (*Singer et al., 2017*).

Aim of the Study

To assess the impact of qSOFA score on the outcome of patients in ICU with respiratory tract infection.

Lower Respiratory Tract Infection

Lower respiratory tract infection (LRTI) is a term often used as a synonym for pneumonia but can also be applied to other types of infection including lung abscess and acute bronchitis. Symptoms include shortness of breath, weakness, fever, coughing and fatigue. A routine chest X-ray is not always necessary for people who have symptoms of a lower respiratory tract infection (*Cao, Amy Millicent, 2013*).

In 2015 there were about 291 million cases. These resulted in 2.74 million deaths down from 3.4 million deaths in 2010. This was 4.8% of all deaths in 2013 (*GBD,2013*).

❖ Bronchitis

Bronchitis describes the swelling or inflammation of the bronchial tubes. Additionally, bronchitis is described as either acute or chronic depending on its presentation and is also further described by the causative agent. Acute bronchitis can be defined as acute bacterial or viral infection of the larger airways in healthy patients with no history of recurrent disease (*Becker et al., 2015*).

Viral bronchitis can sometimes be treated using antiviral medications depending on the virus causing the infection, and medications such as anti-inflammatory drugs and expectorants can help mitigate the symptoms (*Becker et al., 2015*).

Treatment of acute bronchitis with antibiotics is common but controversial as their use has only moderate benefit weighted against potential side effects (nausea and vomiting), increased resistance, and cost of treatment in a self-limiting condition (*Smith et al., 2014*).