Review Form 3

Journal Name:	**Journal of Advances in Microbiology**
Manuscript Number:	**Ms_JAMB_127348**
Title of the Manuscript:	**Bacterial Etiology of Lower Respiratory Tract Infection that Isolated from Tripoli University Hospital (TUH) Units in 2019**
Type of the Article	This article is an original research paper, as it involves the collection and analysis of data from a specific hospital to identify bacterial pathogens responsible for respiratory infections.

PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	This manuscript is of significant importance to the scientific community as it provides valuable data on the bacterial causes of lower respiratory tract infections (LRTIs) in a specific population at Tripoli University Hospital in 2019. Understanding the prevalent bacterial pathogens in a particular geographic area allows for more effective treatment strategies and the development of region-specific guidelines for managing LRTIs. The study also contributes to the global effort to monitor antibiotic resistance patterns, which are essential for combating the rising threat of antimicrobial resistance. I appreciate this manuscript because it bridges a gap in the literature by offering a detailed, localized perspective, which can inform both clinical practices and future research in the field of infectious diseases.	
Is the title of the article suitable? **(If not please suggest an alternative title)**	**Yes.** Bacterial Etiology of Lower Respiratory Tract Infection that Isolated from Tripoli University Hospital (TUH) Units in 2019	

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Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	**Introduction:** Lower respiratory tract infection (LRTI) is one of the common major health problems, causing morbidity and mortality. **Aims:** The study was conducted to determine the current trends of bacterial etiology of LRTIs among patients who attended the University Teaching Hospital (UTH) and their antimicrobial susceptibility profile with special interest on drug resistance. **Study design:** The study was a Cross sectional study. All patients' files were selected as diagnosed with LRTIs and their demographic data, other illness, prescribed treatment /antibiotic used previously. **Place and Duration of Study:** This study is designed to collect data from files of lower respiratory tract infection patients following in units of university hospital in Tripoli. **Methodology:** The study was conducted between January to December 2019 at the unit in university hospital in Tripoli city in Libya. Sputum samples of 465 patients with suspected LRTIs were received, after obtaining patients' informed consent and ethical clearance from the UNTH. The samples were collected and processed according to standard laboratory procedures. **Results:** Of the total 465 sputum samples, 366 (78.7%) were positive for micro-organisms. Four main types of bacteria have been identified: *acinetobacter spp*. 25.6%, *Klebsiellla pneumoniae* 25.6%, *Ps.aeroginosa (*1.39%) , *Candida (*9.03%). The distribution of lower respiratory tract infections within the hospital department indicated that the isolated strains revealed a higher infection rate of Gram-negative bacteria in the Pediatric Intensive Care Unit (PICU) and General Surgical Intensive Care Unit (GSICU) compared to other departments, with statistical significance. Notably, there was a significant difference in the infection rates of *Pseudomonas* in the Special Care Baby Unit (SCBU) with 7 cases, and in the Medical Intensive Care Unit (MICU) with 6 cases, as well as in the Neonatal Intensive Care Unit (NICU) with 2 cases. The infection rates for Candida and Streptococcus pneumoniae in the NICU were recorded at 2, 1, and 2, respectively, which were significantly different from those observed in other departments. The prevalence of antimicrobial resistance among Gram-negative and Gram-positive bacterial isolates indicated a very high resistance rate (98–100%) among *Acinetobacter baumanni*i isolates to various antibiotics including AK, AMC, ATM, CAZ, CRO, CIP, GN, MEM, TOB, PRL, and CZ. However, for SXT, the isolate demonstrated the highest sensitivity, with a resistance rate of less than 53%. **Conclusion:** Understanding the variety of pathogens that cause lower respiratory tract infections (LRTIs) and their patterns of susceptibility to antibiotics, in addition to monitoring antibiotic resistance, is crucial for the effective management of LRTIs. This includes timely clinical and laboratory diagnoses, as well as the implementation of the appropriate treatment strategies. *Keywords: Antimicrobial susceptibility; Bacterial pathogens; Lower respiratory infections*	
Are subsections and structure of the manuscript appropriate?	**Yes**	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	This manuscript is scientifically robust and technically sound, as it employs a comprehensive methodology to examine the bacterial pathogens associated with lower respiratory tract infections (LRTIs). The findings, including the high prevalence of Gram-negative bacteria such as *Acinetobacter spp.* and *Klebsiella pneumoniae*, align with global trends and underscore the reliability of the data. The study's examination of antimicrobial resistance patterns provides critical information for developing effective treatment protocols in hospital settings, where resistant strains are a growing concern. Additionally, the manuscript's focus on specific hospital units, such as the SCBU and NICU, reflects a targeted approach to understanding infection patterns in vulnerable populations, thereby improving the relevance and applicability of the results. By referencing similar studies, the manuscript strengthens its conclusions and ensures that its findings are based on a broad and well-established body of evidence.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	**The references are sufficient and recent**	

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Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	Yes	
Optional/General comments	Proper identification of the probable pathogens and their antibiotic susceptibility pattern can help our health professionals to choose the right antibiotic therapy and improve the outcome	

PART 2:

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Are there ethical issues in this manuscript?	*(If yes, Kindly please write down the ethical issues here in details)*	

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