Materials Design Analysis Reporting (MDAR) Checklist for Authors

The MDAR framework establishes a minimum set of requirements in transparent reporting applicable to studies in the life sciences (see Statement of Task: doi:10.31222/osf.io/9sm4x.). The MDAR checklist is a tool for authors, editors and others seeking to adopt the MDAR framework for transparent reporting in manuscripts and other outputs. Please refer to the MDAR Elaboration Document for additional context for the MDAR framework.

Materials

Antibodies	Yes (indicate where provided: section/paragraph)	n/a
For commercial reagents, provide supplier name, catalogue number and RRID, if available.		n/a

Cell materials	Yes (indicate where provided: section/paragraph)	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		n/a
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	1. Specimen Collection and Processing □ Avoid normal flora and colonizing organisms; □ Collect the appropriate quantity of specimen; □ Package specimen in correct transport media; □ Label with patient information & source; □ Transport the specimen to the lab asap to avoid deterioration. 2. Microscopic Examination of Infected Materials Quality control for sputum specimen, Unacceptable = >25 squamous epithelial cells/LPF; Acceptable = <10 PMN/LPF; Evaluate smear first under low power to look for background material, such as WBC(pus), epithelial cells, etc; Search for microorganims under 100X. 3. Isolation and Identification of Acinetobacter baumannii referenced the protocol as follows: Engelkirk, P., & Duben-Engelkirk, J. (2008). Laboratory Diagnosis of Infectious Diseases: Essentials of Diagnostic Microbiology . Baltimore, MD: Lippincott Williams and Wilkins. Manuselis G , Mahon C R . In: Textbook of diagnostic microbiology[J]. Epidemiology and Infection, 1995, 115(3):626.	

Experimental animals	Yes (indicate where provided: section/paragraph)	n/a
Laboratory animals: Provide species, strain, sex, age, genetic modification status. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		n/a
Animal observed in or captured from the field: Provide species, sex and age where possible		n/a
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		n/a

Plants and microbes	Yes (indicate where provided: section/paragraph)	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild specimens)		**n/a**
Microbes: provide species and strain, unique accession number if available, and source	Escherichia coli ATCC 25922 and Pseudomonas aeruginosa ATCC 27853， Acinetobacter baumannii isolates collected from a tertiary hospital, Shenzhen Second People's Hospital, Guangdong Province, China.	

Human research participants	Yes (indicate where provided: section/paragraph)	n/a
Identify authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Approved by the Ethics Committee of Shenzhen Second People's Hospital (Approval ID: 20200511007).	

Provide statement confirming informed consent obtained from study participants.	The informed consent of patients in this study was exempted.	
Report on age and sex for all study participants.		**n/a**

Design

Study protocol	**Yes (indicate where provided: section/paragraph)**	**n/a**
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.		**n/a**

Laboratory protocol	**Yes (indicate where provided: section/paragraph)**	**n/a**
Provide DOI or other citation details if detailed step-by-step protocols are available.	1. Protocols for PCR is based on DOI: 10.2147/IDR.S151423 2. Protocol for RNA isolation is based on: doi.org/10.1186/s12879-018-3511-0 Methods: RNA expression of efflux pump genes 3. Protocol for Antimicrobial susceptibility tests CLSI 2019, 29th Edition; Document M100 4. Isolation and Identification of Acinetobacter baumannii referenced the protocol as follows: Manuselis G, Mahon C R. In: Textbook of diagnostic microbiology[J]. Epidemiology and Infection, 1995, 115(3):626.	

Experimental study design (statistics details)	**Yes (indicate where provided: section/paragraph)**	**n/a**

State whether and how the following have been done**, or** if they were not carried out.	This study was a retrospective research which gained data from Shenzhen Second People's hospital's information system;	
Sample size determination	The isolation of A. baumannii strains was from ICU admission patients from May 2018 to April 2020. Specimen types of these isolates covered sputum, alveolar lavage fluid, wound secretion, urine, and blood.	
Randomisation	Selected all ICU A. baumannii strains from from May 2018 to April 2020.	
Blinding	The single blind method was used.	
Inclusion/exclusion criteria	The repetitive strains which isolated from the same patients were excluded.	

Sample definition and in-laboratory replication	**Yes (indicate where provided: section/paragraph)**	**n/a**
State number of times	the experiment was replicated in laboratory for three times.	
Define whether data describe technical or biological replicates	technical replicates	

Ethics	**Yes (indicate where provided: section/paragraph)**	**n/a**
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Approved by the Ethics Committee of Shenzhen Second People's Hospital (Approval ID: 20200511007).	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		n/a
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.	Specimen obtaining permit was approved by the Ethics Committee of Shenzhen Second People's Hospital, and the Approval ID: 20200511007.	

Dual Use Research of Concern (DURC)	**Yes (indicate where provided: section/paragraph)**	**n/a**
If study is subject to dual use research of concern, state the authority granting approval and reference number for the regulatory approval		n/a

Analysis

Attrition	Yes (indicate where provided: section/paragraph)	n/a
State if sample or data point from the analysis is excluded, and whether the criteria for exclusion were determined and specified in advance.	The repetitive strains (isolated from the same patients) were excluded, and exclusion were determined and specified in advance.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Data entry and analysis were performed with Stata/SE 15.1 for windows (Stata Corp LLC, Texas, USA) version 16.0. Categorical variables were described as frequency numbers (percentages). Distribution of sources of samples, patient age and genderwere compared using Pearson's chi-square test. ASTresults and harboring of resistance genes were compared between the CSAB and CRAB group using Fisher-Exact test. Logistic Regression was used to assess the relations between harboring of resistance genes and antimicrobial susceptibility result and calculate odds ratio of univariate regression. General regression model was used to make multivariate regression analysis of resistance genes and antimicrobial susceptibility results to calculate the risk ratio. All tests were two-tailed, and a P value $\leqslant$0.05 was considered statistically significant.	

Data Availability	Yes (indicate where provided: section/paragraph)	n/a
State whether newly created datasets are available, including protocols for access or restriction on access.	Datasets were kept in the information system of Shenzhen Second People's Hospital.	
If data are publicly available, provide accession number in repository or DOI or URL.	Due to the protection of patient privacy, data cannot be released.	
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.		n/a

Code Availability	Yes (indicate where provided: section/paragraph)	n/a
For all newly generated code and software essential for replicating the main findings of the study:		n/a
State whether the code or software is available.		n/a
If code is publicly available, provide accession number in repository, or DOI or URL.		n/a

Reporting

Adherence to community standards	Yes (indicate where provided: section/paragraph)	n/a
MDAR framework recommends adoption of discipline-specific guidelines, established and endorsed through community initiatives. Journals have their own policy about requiring specific guidelines and recommendations to complement MDAR.	All studies strictly comply with the Helsinki declaration	
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist (eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.	ICMJE guidelines were followed, as the journal follows ICMJE recommendations for publication	

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