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** : Our study do not discuss about this area

Cell materials	Yes (indicate where provided:	n/a
Cell lines: Provide species information, strain. Provide accession number in repository **OR** supplier name, catalog number, clone number, **OR** RRID		**n/a** : Our study do not discuss about this area
Primary cultures: Provide species, strain, sex of origin, genetic modification status.		**n/a** : Our study do not discuss about this area

Experimental animals	Yes (indicate where provided:	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** : Our study do not discuss about this area
Animal observed in or captured from the field: Provide species, sex and age where possible		**n/a** : Our study do not discuss about this area
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID		**n/a** : Our study do not discuss about this area

Plants and microbes	Yes (indicate where provided:	n/a
Plants: provide species and strain, unique accession number if available, and source (including location for collected wild specimens)		**n/a** : Our study do not discuss about this area
Microbes: provide species and strain, unique accession number if available, and source		**n/a** : Our study do not discuss about this area

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.	Study design section/ paragraph 1	
Provide statement confirming informed consent obtained from study participants.		**n/a** : Informed consent was exemption by the IRB as this study utilized an already existing database.
Report on age and sex for all study participants.	Results section/ paragraph 1	

Design

Study protocol	Yes (indicate where	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.		n/a: this is not a clinical trial

Laboratory protocol	Yes (indicate where	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.		n/a: this is not laboratory protocol

Experimental study design (statistics details)	Yes (indicate where	n/a
State whether and how the following have been done**, or** if they were not carried out.		
Sample size determination	Yes. Statistical analysis section/ paragraph 1	
Randomisation		n/a: this is a retrospective research
Blinding		n/a: this is a retrospective research
Inclusion/exclusion criteria	Yes. Selection of participants section/ paragraph 3	

Sample definition and in-laboratory replication	Yes (indicate where	n/a
State number of times the experiment was replicated in laboratory		n/a: this is a retrospective research from existing data
Define whether data describe technical or biological replicates		n/a: this is a retrospective research from existing data

Ethics	Yes (indicate where	n/a
Studies involving human participants: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	Yes. Study design section/ paragraph 1	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.		n/a: Study do not involve experimental animals
Studies involving specimen and field samples: State if relevant permits obtained, provide details of authority approving study; if none were required, explain why.		n/a: Study do not involve specimen and field samples

Dual Use Research of Concern (DURC)	Yes (indicate where	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: study is not subject to dual use research of concern

Analysis

Attrition	Yes (indicate where provided:	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.	Yes. See Figure1.	

Statistics	Yes (indicate where provided:	n/a
Describe statistical tests used and justify choice of tests.	Yes: Statistical analysis section/ paragraph 1	

Data Availability	Yes (indicate where provided:	n/a
State whether newly created datasets are available, including protocols for access or restriction on access.		n/a: The datasets are not publicly available
If data are publicly available, provide accession number in repository or DOI or URL.		n/a: Data are not publicly available
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.		n/a: This is not publicly available data

Code Availability	Yes (indicate where provided:	n/a
For all newly generated code and software essential for replicating the main findings of the study:	Yes: Statistical analysis section/ paragraph 2	
State whether the code or software is available.	Yes: Statistical analysis section/ paragraph 2	
If code is publicly available, provide accession number in repository, or DOI or URL.		n/a: the code is not publicly available

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.		
State if relevant guidelines (eg., ICMJE, MIBBI, ARRIVE) have been followed, and whether a checklist (eg., CONSORT, PRISMA, ARRIVE) is provided with the manuscript.	Yes, the paper follows the ICMJE recommendations. No other checklist is provided.	

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