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.	Beyotime antibodies：MMP2 (AF1420),BCL-2 (AF0060), BAX (AF0054),E-Cadherin (AF0138),CD44 (AF0105), β-actin(AF003). (Section Methods / paragraph 2).	

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	The human HCT-116CRC cell line was purchased from the cell bank of the Chinese Academy of Sciences (Section Methods / paragraph 1).	
Primary cultures: Provide species, strain, sex of origin, genetic modification status.	The experimental cells were cultured by passaging(Section Methods / paragraph 1).	No

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	No animals were involved in the experiments	N/A
Animal observed in or captured from the field: Provide species, sex and age where possible	No animals were involved in the experiments	N/A
Model organisms: Provide Accession number in repository (where relevant) **OR** RRID	Experiments did not involve model organisms	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)	Experiments did not involve plants	N/A
Microbes: provide species and strain, unique accession number if available, and source	Microbes were not involved in the experiment	N/A

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.	Through the review of the Ethics Committee of the first affiliated Hospital of Gannan Medical College (project number: 20190507). (Section Methods/ Paragraph 1.)	
Provide statement confirming informed consent obtained from study participants.	All signed an informed consent form for biological samples. (Section Methods/ Paragraph 1.)	
Report on age and sex for all study participants.	Refer to Table 1, and specific documentation is available if needed.	

Design

Study protocol	Yes (indicate where provided: section/paragraph)	n/a
For clinical trials, provide the trial registration number **OR** cite DOI in manuscript.	No clinical trials involved.	No

Laboratory protocol	Yes (indicate where provided: section/paragraph)	n/a
Provide DOI or other citation details if detailed step-by-step protocols are available.	In the early stage, TCGA database and GEO were used to download miRNAseq from colorectal cancer patien-ts and normal subjects. The information of miR-17-5p was screened and analyzed by R. The results showed that the expression of miR-17-5p in colorectal cancer tissues was significantly higher than that in normal tissues, $p<0.05$. (Supplementary materials)	

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.		
Sample size determination	In this paper, the cancer tissues and paracancerous tissues of 30 patients with colorectal cancer were collected for in vitro cell level and molecular level experiments. (Section Abstract/ Paragraph 2.)	
Randomisation	The article deals only with the collection of colorectal cancer tissue specimens and the performance of HCT116 cell culture.	N/A
Blinding	The article deals only with the collection of colorectal cancer tissue specimens and the performance of HCT116 cell culture.	N/A
Inclusion/exclusion criteria	Participant inclusion criteria: a) Patients with colorectal cancer surgery, postoperatively based on pathological staging, b) Preoperative detection and review of serum tumor markers, c) Complete clinical data; exclusion criteria: a) patients with inflammatory bowel disease, b) patients with rheumatoid arthritis, c) multiple primary tumors, d) combined heart, liver, lung, and kidney disease that is severely intolerant of surgery. (Section Methods / paragraph 1)	

Sample definition and in-laboratory replication	Yes (indicate where provided: section/paragraph)	n/a
State number of times the experiment was replicated in laboratory	The same data result is repeated three or more times.	
Define whether data describe technical or biological replicates	Both technical and biological 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.	The article deals with human colorectal cancer specimens. Through the review of the Ethics Committee of the first affiliated Hospital of Gannan Medical College (Ethics No.20190507). Section Methods/ Paragraph 1.	
Studies involving experimental animals: State details of authority granting ethics approval (IRB or equivalent committee(s), provide reference number for approval.	No animals were involved in the experiments	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.	Approved by first affiliated hospital of Gannan Medical College Ethics Committee (project number: 20190507).	

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	Not a dual-use study	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 collected samples were screened according to the inclusion and exclusion criteria, and the RT-qPCR data were averaged by using the result that the difference between complex holes was less than 0.5.	

Statistics	Yes (indicate where provided: section/paragraph)	n/a
Describe statistical tests used and justify choice of tests.	Use SPSS22.0, AdobeIllustrator2020, GraphPad6.0 software to process data. For clinical and database samples, the clinical and database samples were analyzed by Wilcoxon, and the correlation between the expression level of miR-17-5p and clinicopathological features was tested by $\chi 2$,for cell experimental data, the measurement data with normal distribution was $\bar{\chi}$ ±S, and t-test was used for comparison between the two groups. Single factor analysis of variance was used for comparison between groups, $P < 0.05$ or $p < 0.01$. There was significant difference. (Section Statistical analysis/Paragraph 1)	

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.	Experimental data are publicly available, limited to gastrointestinal surgeons and investigators, for a period of 5 years.	
If data are publicly available, provide accession number in repository or DOI or URL.	They are not available at the moment	N/A
If publicly available data are reused, provide accession number in repository or DOI or URL, where possible.	They are not available at the moment	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:		
State whether the code or software is available.	No code involved	N/A
If code is publicly available, provide accession number in repository, or DOI or URL.	No code involved	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.		
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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