STROBE Statement—checklist of items that should be included in reports of observational studies

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|  | Item No. | Recommendation | Page No. | Relevant text from manuscript |
| **Title and abstract** | 1 | (*a*) Indicate the study’s design with a commonly used term in the title or the abstract | 1 | Circular RNAs in Endometriosis analyzed through RNA sequencing and Bioinformatics for Expression Profile |
| (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found | 1 | Endometriosis severely affects women's physical and mental health; it is particularly important to find targets for the treatment and diagnosis of endometriosis. |
| Introduction |  |
| Background/rationale | 2 | Explain the scientific background and rationale for the investigation being reported | 2-3 | Endometriosis, an inflammatory benign condition, is defined by the presence of endometrial stroma and glands in locations outside their normal position, predominantly found in the pelvic peritoneum, ovaries, and rectovaginal septum. However, the pathogenic mechanisms of endometriosis are still unknown. |
| Objectives | 3 | State specific objectives, including any prespecified hypotheses | 4 | Currently, there is limited understanding regarding the expression levels and role of circRNAs in endometriosis. Within our research, we examined the expression patterns of circRNAs in endometriosis and healthy endometrium samples, emphasizing circRNAs that hold significant relevance in endometriosis. Specifically, leveraging publicly available databases, We underscored the clinical significance of circular RNAs (circRNAs) and corroborated their expression levels in endometriosis patients through qRT-PCR validation. |
| Methods |  |
| Study design | 4 | Present key elements of study design early in the paper | 4 | In this study, a total of 3 individuals with endometriosis (case group) aged between 25 to 35 years in the proliferative phase, alongside 3 individuals with normal endometrium devoid of endometriosis (control group) aged between 26 to 38 years in the proliferative phase, were included. |
| Setting | 5 | Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection | 4 | In this study, a total of 3 individuals with endometriosis (case group) aged between 25 to 35 years in the proliferative phase, alongside 3 individuals with normal endometrium devoid of endometriosis (control group) aged between 26 to 38 years in the proliferative phase, were included. |
| Participants | 6 | (*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up*Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls*Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants | 4 | In this study, a total of 3 individuals with endometriosis (case group) aged between 25 to 35 years in the proliferative phase, alongside 3 individuals with normal endometrium devoid of endometriosis (control group) aged between 26 to 38 years in the proliferative phase, were included. |
| (*b*)*Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed*Case-control study*—For matched studies, give matching criteria and the number of controls per case | / |  |
| Variables | 7 | Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable | / |  |
| Data sources/ measurement | 8\* | For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group | */* |  |
| Bias | 9 | Describe any efforts to address potential sources of bias | / |  |
| Study size | 10 | Explain how the study size was arrived at | / |  |

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| Quantitative variables | 11 | Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why | / |  |
| Statistical methods | 12 | (*a*) Describe all statistical methods, including those used to control for confounding | 8 | Data analysis was conducted utilizing SPSS Statistics (Version 20, Chicago, IL, USA). The continuous data were averaged, and both addition and subtraction operations were applied. Additionally, the standard deviation was calculated. To examine the disparities between two groups, a t-test was executed. The outcomes unveiled a noteworthy distinction between the two groups (p < 0.05). |
| (*b*) Describe any methods used to examine subgroups and interactions | / |  |
| (*c*) Explain how missing data were addressed | / |  |
| (*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed*Case-control study*—If applicable, explain how matching of cases and controls was addressed*Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy | / |  |
| (*e*) Describe any sensitivity analyses | / |  |
| Results |
| Participants | 13\* | (a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed | 9 | As illustrated in Figure 1B, we observed highly correlated gene expression patterns of circRNAs in both the control group (C1, C2, C3) and the case group (M4, M5, M6), respectively. |
| (b) Give reasons for non-participation at each stage |  |  |
| (c) Consider use of a flow diagram |  |  |
| Descriptive data | 14\* | (a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders | / |  |
| (b) Indicate number of participants with missing data for each variable of interest | / |  |
| (c) *Cohort study*—Summarise follow-up time (eg, average and total amount) | / |  |
| Outcome data | 15\* | *Cohort study*—Report numbers of outcome events or summary measures over time | */* | *Each group of 3 independent samples* |
| *Case-control study—*Report numbers in each exposure category, or summary measures of exposure | */* |  |
| *Cross-sectional study—*Report numbers of outcome events or summary measures | */* |  |
| Main results | 16 | (*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included | / |  |
| (*b*) Report category boundaries when continuous variables were categorized | / |  |
| (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period |  |  |

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| Other analyses | 17 | Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses |  |  |
| Discussion |
| Key results | 18 | Summarise key results with reference to study objectives |  |  |
| Limitations | 19 | Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias |  |  |
| Interpretation | 20 | Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence |  |  |
| Generalisability | 21 | Discuss the generalisability (external validity) of the study results |  |  |
| Other information |  |
| Funding | 22 | Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based |  |  |

\*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

**Note:** An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.