Supplementary data

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

	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	"A cross-sectional hospital study" was included in the title; "A cross-sectional design was adopted."
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	1	Background, purpose, methods (sample size, grouping, main indicators) , results (prevalence of Mets, differences in metabolic indicators) and conclusions are reported in the abstract
Introduction				
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	3	Introduction section: Discusses the metabolic risks associated with atypical antipsychotic drugs (Risperidone, Olanzapine), and the limited evidence of long-term use in the Chinese population.
Objectives	3	State specific objectives, including any prespecified hypotheses	3	At the end of the introduction or at the beginning of the methods section: Clearly state the research objectives (assess the prevalence of MetS, changes in metabolic indicators, and analyze risk factors)
Methods				
Study design	4	Present key elements of study design early in the paper	3	Method Section 1: Clearly state "cross-sectional study design", and explain the comparison between the two groups (Risperidone vs Olanzapine)
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	3	Method: It is stated that "a certain tertiary specialized hospital" was involved, and the recruitment period was from January 2021 to January

				2025; the exposure was long-term medication (≥ 2 years)
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	3	In the method: Inclusion criteria (chronic schizophrenia, monotherapy for ≥ 12 months); Exclusion criteria (severe physical illness, pregnancy, recent use of drugs affecting metabolism, etc.)
		(*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	3	This study involved two independent samples and no matching design was employed. It can be indicated as "not applicable".
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	3	In the method: Exposure = long-term treatment with risperidone/olanzapine; Outcome = Metabolic syndrome (according to IDF criteria); Covariates = age, gender, family history, etc.; The diagnostic criteria are clear
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	*5*	*In the method: describe the methods and instruments for physical measurements (such as height, weight, waist circumference, etc.) and laboratory tests (such as fasting blood glucose, blood lipids, etc.); the measurement methods for both groups are consistent.*
Bias	9	Describe any efforts to address potential sources of bias	5	In the methods or discussions: such as through unified training to measure personnel, using blinding (the laboratory testers are unaware of the groups), controlling confounding factors (multivariate regression), etc.
Study size	10	Explain how the study size was arrived at	5	In the method: It is possible to explain based on the effect size from previous studies or the actual available sample size; if no prior sample size calculation was conducted, it should also be explained.

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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	5	Methodological statistics section: Continuous variables are presented as mean ± standard deviation or median (interquartile range), while categorical variables are expressed as frequency (%); the basis for grouping is described (e.g., risperidone vs olanzapine)
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding		Methodological statistics section: T-tests and χ^2 tests were used to compare differences between groups; binary logistic regression analysis was conducted to adjust for confounding factors such as age, gender, and family history.
		(*b*) Describe any methods used to examine subgroups and interactions		Not conducted
		(*c*) Explain how missing data were addressed		No missing data
		(*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		No complex sampling design was used; standard regression analysis was employed.
		(*e*) Describe any sensitivity analyses		Not carried out
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		Describe the initial screening population, the number of excluded individuals and the reasons, and finally 160 cases were included (80 cases with risperidone, 80 cases with olanzapine)
		(b) Give reasons for non-participation at each stage		See Figure 1
		(c) Consider use of a flow diagram		See Figure 1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	7	Table 1 presents the baseline data of two groups, including age, gender, educational level, disease duration, family history, etc., and compares the differences between the groups.
		(b) Indicate number of participants with missing data for each variable of interest	7	All variables are complete without any missing values.
		(c) *Cohort study*—Summarise follow-up time (eg, average and total amount)	7	Result: The report includes the number of cases of MetS (24 cases

				in the risperidone group and 39 cases in the olanzapine group), as well as the mean values ± standard deviations of each metabolic indicator.
Outcome data	15*	*Cohort study*—Report numbers of outcome events or summary measures over time		Result of logistic regression section: Report the crude OR and adjusted OR, as well as the 95% CI; List the adjusted confounding factors (age, gender, family history of diabetes, etc.)
		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		If continuous variables have been categorized (such as age groups, BMI groups), then specify the cut-off points and the basis for the categorization.
		(*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		Not carried out
Discussion				
Key results	18	Summarise key results with reference to study objectives	9	Discussion section 1: Summarize the main findings (the MetS prevalence was lower in the risperidone group, and the glucose and lipid metabolism was better, but the abdominal obesity was still higher than that of the control group)
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	9	Discussion section: It is pointed out that cross-sectional designs cannot infer causality, the generalizability of single-center samples is limited, and confounding factors such as diet and exercise have not been measured.
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	11	Conclusion: Carefully interpret the results, emphasizing the relative advantages of risperidone, but also need to consider previous studies and be aware of the limitations.
Generalisability	21	Discuss the generalisability (external validity) of the study results	11	Discussion: The results can be generalized to patients with chronic schizophrenia who are long-term inpatients in similar tertiary hospitals. However, caution is needed for communities or different ethnic groups.
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		There was no funding

*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.