

STROBE Item	Manuscript Details
Title and Abstract (Items 1a, 1b)	Study design is described as prospective cohort in title and abstract. Abstract provides balanced summary of objectives, methods, results, and conclusions.
Background/Rationale (Item 2)	Scientific background and rationale regarding gender differences in total hip arthroplasty (THA) clearly explained.
Objectives (Item 3)	Specific aims to investigate perioperative and postoperative gender differences are clearly stated.
Study Design (Item 4)	Prospective cohort design described early in methods section, referencing STROBE adherence.
Setting (Item 5)	Conducted at a university hospital; recruitment from June 2022 to June 2023 with detailed data collection periods.
Participants (Items 6a, 6b)	Inclusion and exclusion criteria clearly defined; 167 patients enrolled with informed consent; no matched controls.
Variables (Item 7)	Outcomes (range of motion, pain, satisfaction), exposures (gender, implant size), predictors, and confounders detailed.
Data Sources/Measurement (Item 8)	Data extracted from patient records and follow-up visits; measurement tools and software (SPSS, Pegasos 7) described.
Bias (Item 9)	Potential biases acknowledged in discussion (single-center, nonrandomized implant allocation); addressed limitations.
Study Size (Item 10)	Sample size calculated a priori with power analysis; 167 patients included, adequate for planned analyses.
Quantitative Variables (Item 11)	Quantitative variables like range of motion and pain scores thoroughly analyzed; grouping and handling explained.
Statistical Methods (Items 12a-e)	Detailed statistical analyses including t-tests, MANCOVA, Mann-Whitney U, effect sizes, confounder adjustment, subgroups described; missing data and loss to follow-up addressed.
Participants (Items 13a-c)	Flow of participants through study stages clear; inclusion, follow-up, and analysis numbers provided; non-participation reasons discussed. Flowchart suggested.
Descriptive Data (Items 14a-c)	Demographics and baseline data summarized in tables; missing data reported; follow-up time summarized.
Outcome Data (Items 15a-c)	Outcome events and summary measures (range of motion, satisfaction, etc.) reported with confidence intervals where applicable.
Main Results (Items 16a-c)	Key results about gender differences and implant effects clearly presented with appropriate statistical data.
Other Analyses (Item 17)	Subgroup analyses (implant size effects) and interactions reported with sensitivity analyses considerations.
Key Results (Item 18)	Results summarized with respect to study objectives in discussion section.
Limitations (Item 19)	Limitations (single-center, nonrandomization, follow-up duration) openly discussed with potential bias impact.
Interpretation (Item 20)	Balanced interpretation of findings with consideration of limitations and comparison to existing literature.
Generalizability (Item 21)	External validity discussed; limitations due to single center and specific implant systems noted.
Funding (Item 22)	No funding or sponsor influence declared.