



# Clinical success of restorations with bioactive and non-bioactive materials: Systematic Review and Network Meta-Analysis

Fernandes JB<sup>1</sup>, Contreras SCM<sup>1</sup>, Bresciani E<sup>1</sup>, Caneppele TMF<sup>1</sup>

1-Department of Restorative Dentistry, Institute of Science and Technology, UNESP, São José dos Campos, SP



## Objectives

Respond, based on the collection of data from randomized clinical trials, whether restorations with bioactive materials in permanent dentition present higher clinical success than restorations with non-bioactive materials.

## Materials and Methods

### PICO Strategy

**P:** restorations in permanente teeth

**I:** bioactive materials

**C:** non-bioactive materials

**O:** clinical success of restoration



**Eligibility Criteria:** Randomized controlled clinical trials that evaluated at least one bioactive restorative material in permanent dentition using USPHS or FDI evaluation criteria, with a minimum follow-up period of 24 months.

**Data Collection and Analysis:** Two independent reviewers, blinded to each other's responses and decisions, conducted. A third reviewer resolved any disagreements.

## Results

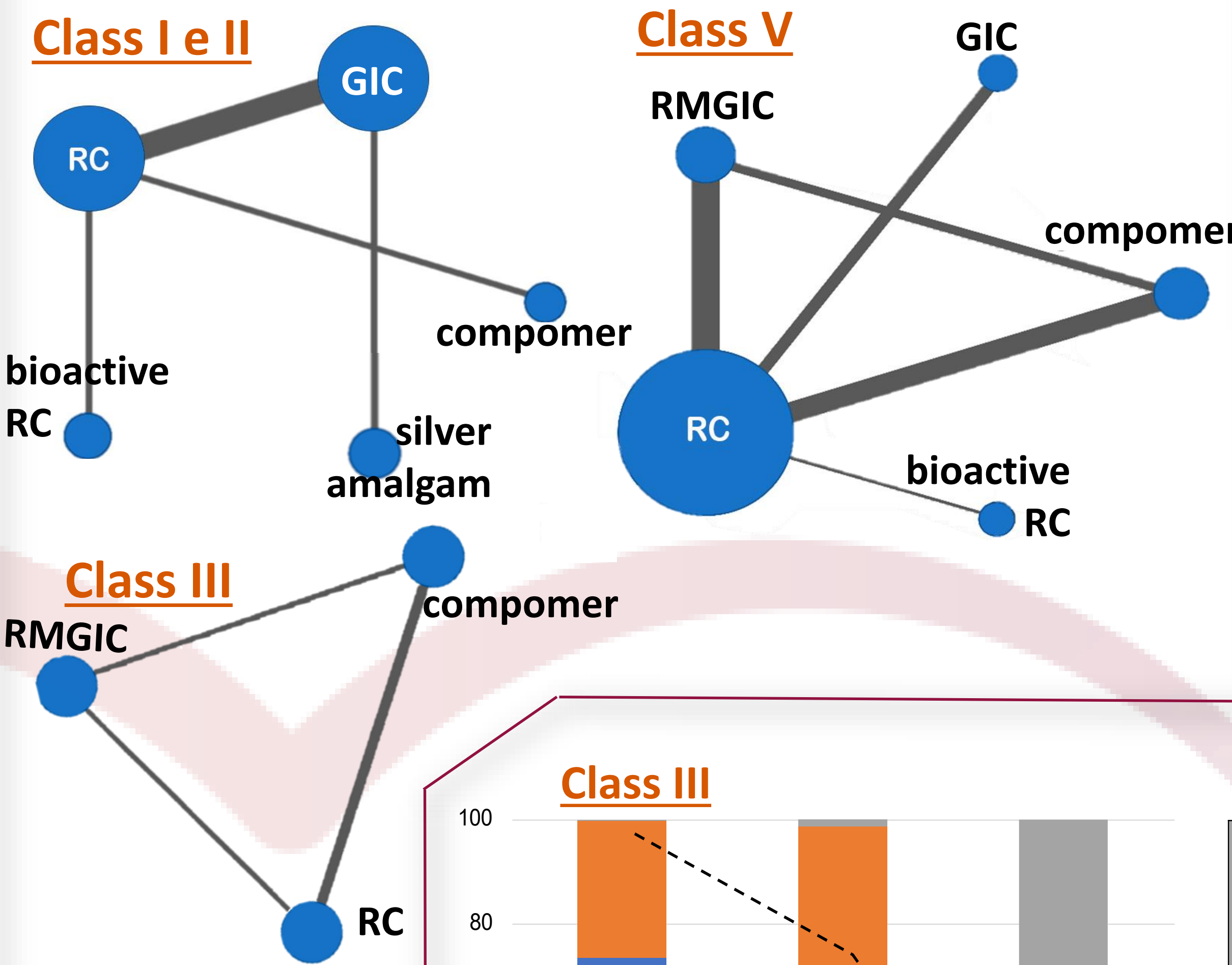
### Summary flow of article selection

**Identification**  
Search Strategy (n= 3738)

**Eligibility**  
Full texts (n= 146)

**Included**  
qualitative and quantitative synthesis (n= 27)

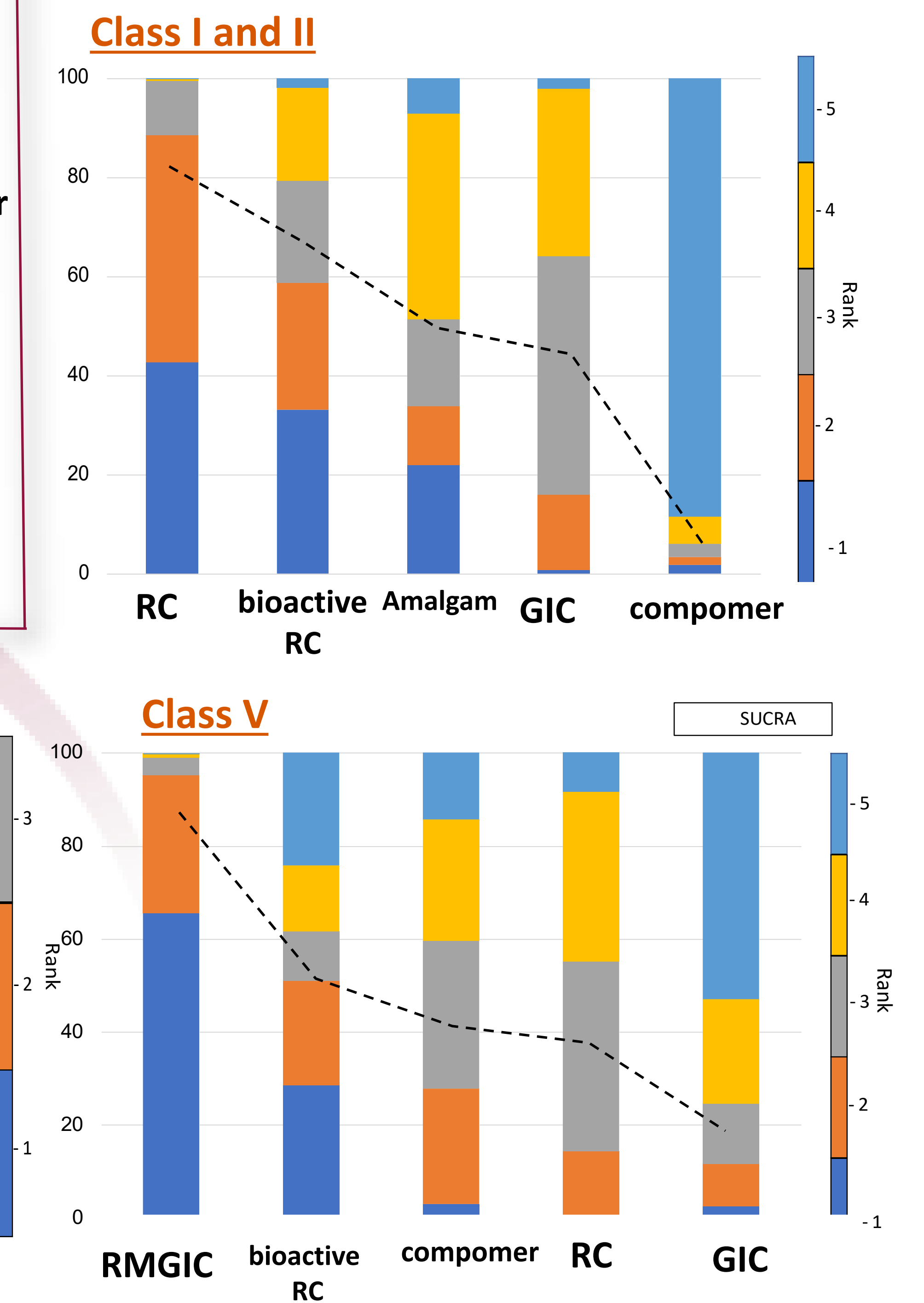
### 3 Networks – Restorative Classes



- Risk of bias**
  - RoB 2 - Cochrane Library
  - Overall: **70%** "some concerns"

- Data Analysis**
  - Bayesian Mixed-effects method
  - No inconsistencies

### Ranking of probabilities and SUCRA (Surface Under the Cumulative Ranking curve) values



## Conclusions

- Bioactive materials showed good clinical performance, especially in Class V restorations;
- Composite resin continues to be the preferred choice for Class I, II, and III
- Future clinical studies should follow the SPIRIT and CONSORT guidelines.

