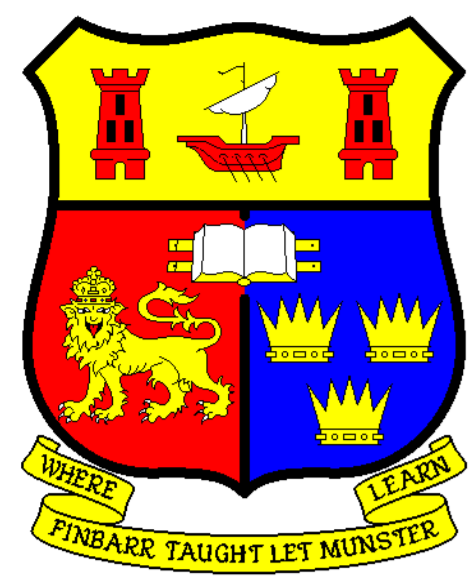


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# Failure rates of Class V restorations in the management of root caries in adults- A systematic review and meta-analysis

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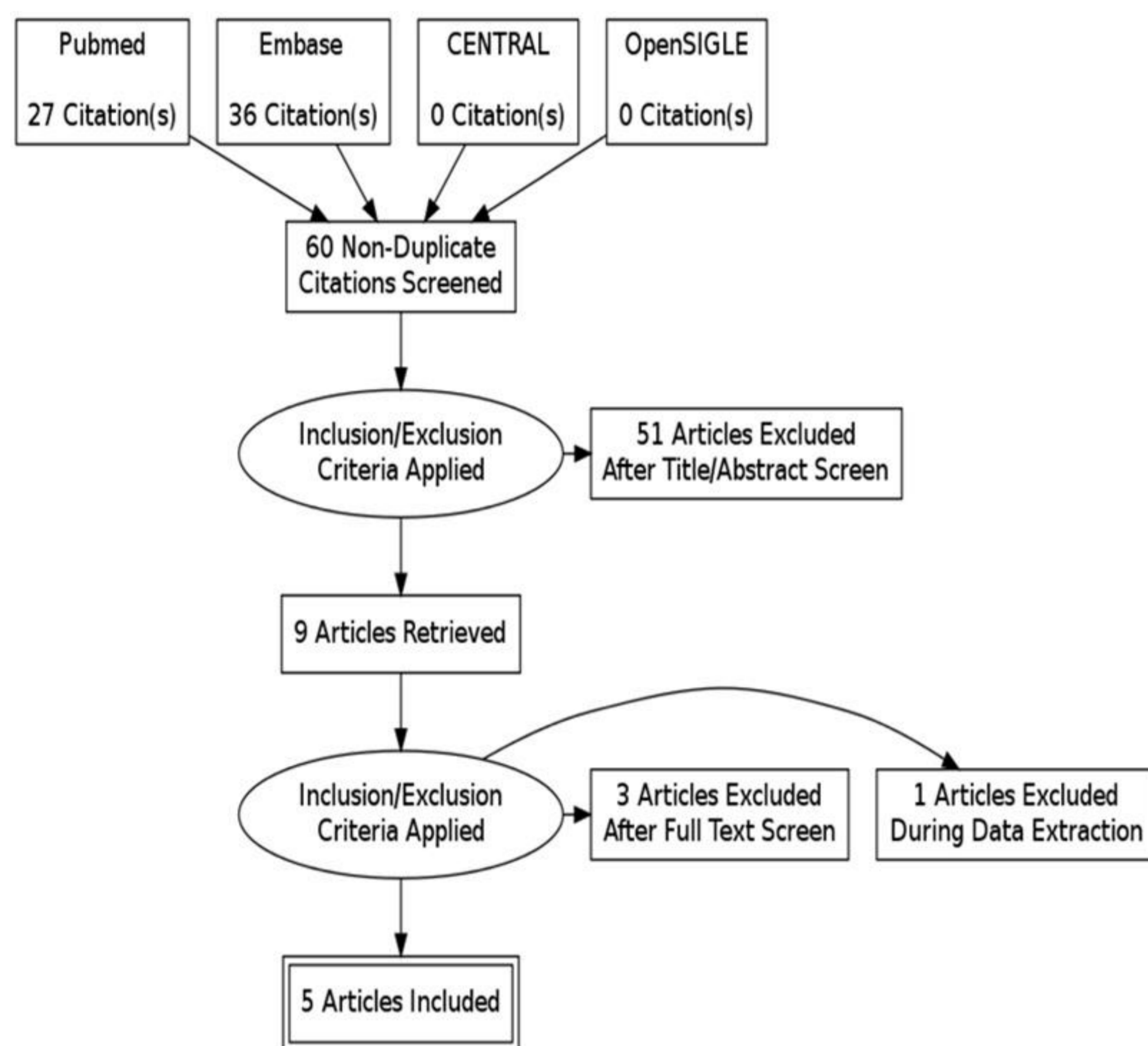


## Aim

To compare cumulative failure and recurrent caries rates of different restorative materials in carious class V lesions on the root surfaces of adult patients.

## Methods

The electronic databases of PubMed, Embase, Cochrane Register of Controlled Trials (CENTRAL), and the grey literature database of OpenSIGLE were searched. The search terms entered into PubMed were; "root caries" [Mesh] AND restorat\*.



Five studies met the pre-defined inclusion criteria. In total, 629 restorations were placed on the root surfaces of 304 participants.

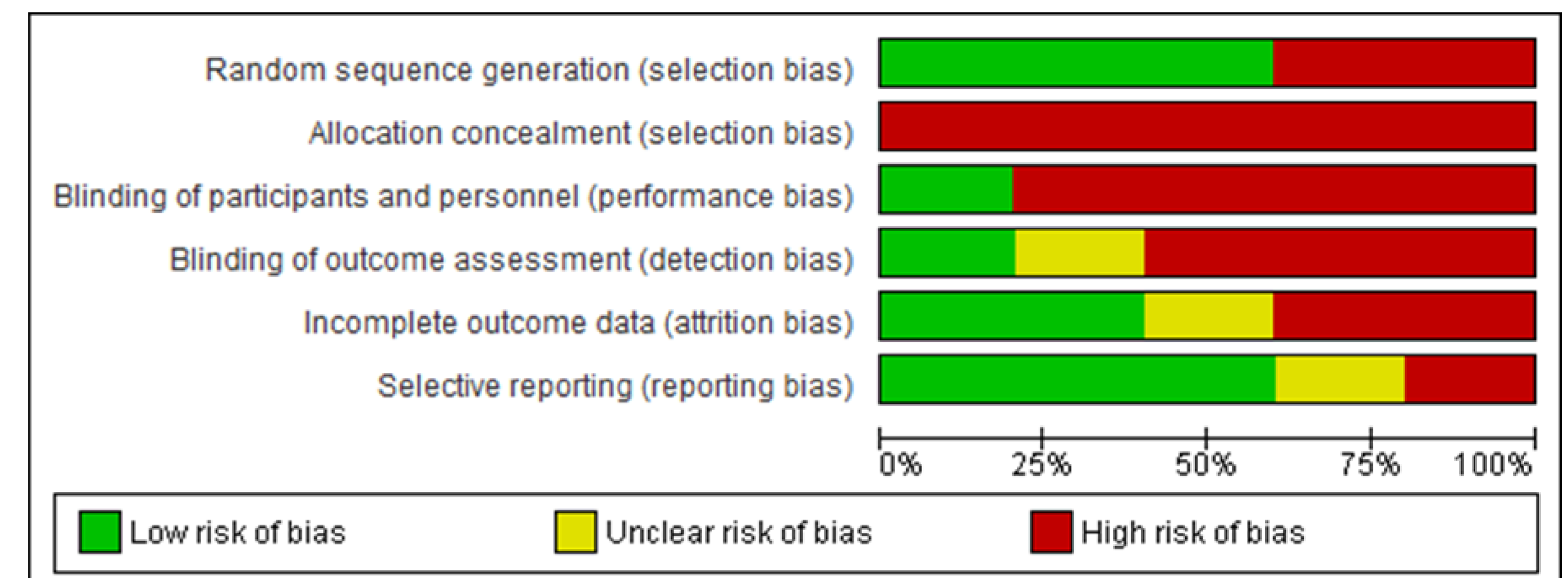
### Characteristics of included studies

	De Moor, 2011	Lo, 2006	McComb, 2002	Wood, 1993	Levy, 1990
<b>Country</b>	Belgium	China	Canada	Canada	United States
<b>Participants (n)</b>	35 (28 M, 7 F)	103 (31 M, 72F)	45	36	50 (24 M, 26 F)
<b>Type of Participants</b>	Post-radiation xerostomic adults with ≥ 3 lesions in same arch	Elders living in residential or nursing homes	Post-radiation xerostomic adults with ≥ 3 lesions in same arch	Post-radiation xerostomic adults with ≥2 lesions in same sextant	Adult volunteers with active root caries
<b>Interventions</b>	GIC* RMGIC* Composite	GIC RMGIC	GIC RMGIC Composite	GIC Amalgam	GIC Composite
<b>Allocated restorations</b>	30 GIC 30 RMGIC 30 Composite	78 GIC 84 RMGIC	50 GIC 50 RMGIC 50 Composite	54 GIC 54 Amalgam	45 GIC 59 Composite
<b>No. of restorations assessed at 12 months</b>	28 GIC 28 RMGIC 28 Composite	64 GIC 68 RMGIC	35 GIC 44 RMGIC 44 Composite	Not reported	Not reported
<b>No. of restorations assessed at 24 months</b>	27 GIC 27 RMGIC 27 Composite	59 GIC 63 RMGIC	28 GIC 21 RMGIC 20 Composite	35 GIC 35 Amalgam	33 GIC 44 Composite

\*GIC- Glass ionomer cement, RMGIC- Resin modified glass ionomer cement

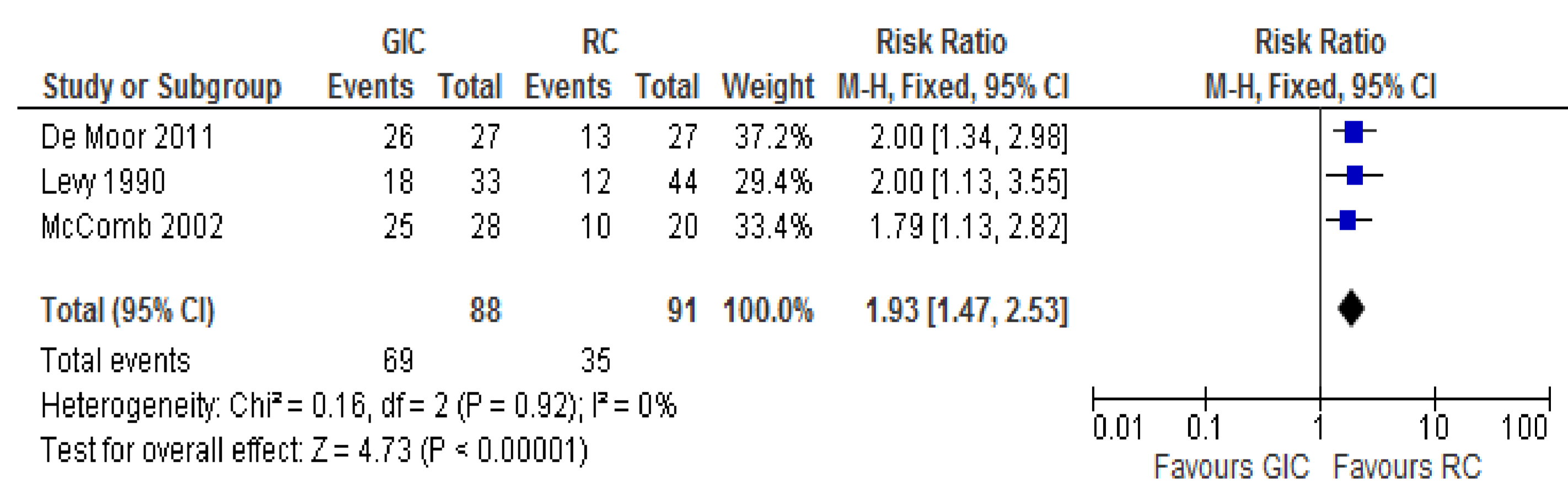
## Results

Risk of bias graph: review authors' judgements about each risk of bias item presented as percentages across all included studies

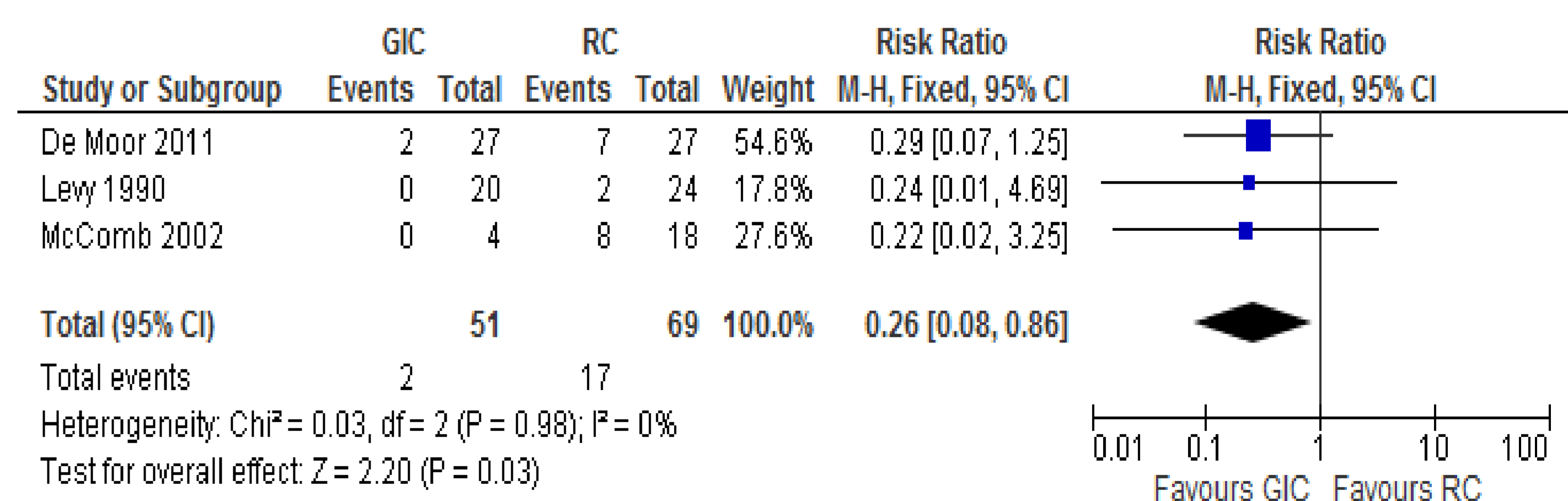


Resin composite showed a statistically significant lower cumulative failure rate at 24 months than either GIC or RMGIC. However, GIC showed a statistically significant lower recurrent caries rate at 24 months than resin composite.

**Intervention: Glass ionomer cement vs Resin composite**  
**Outcome: Cumulative failure rates at 24 months**



**Intervention: Glass ionomer cement vs Resin composite**  
**Outcome: Failure due to marginal caries at 24 months**



## Conclusions

There is a need for more randomized controlled trials in this area before any recommendations can be made. Most of the studies identified in this systematic review treated post-radiation, xerostomic patients which are not typical of the general population. In addition, increased adherence to CONSORT guidelines when reporting clinical trials would facilitate future systematic review.

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