**Background**

In Vitro Fertilization (IVF) is a therapy that assists infertile couples to have children. Unfortunately, IVF therapy still does not guarantee success for every case. Therefore, any methods that could effectively increase the success rate of IVF therapy are valued. The use of heparin and aspirin have been used in conjunction with standard IVF practices to increase the chance of embryo implantation and clinical pregnancy of the IVF patients.

**Aim**

To systematically review studies that involve the usage of heparin and aspirin to improve IVF success rate.

**Methods**

Literature articles search was performed at October 2014. PUBMED is used to search the studies for this systematic review with keywords "IVF & Heparin" and "IVF & Aspirin". The selected cases would be the ones that were related directly to IVF cases.

<table>
<thead>
<tr>
<th>Inclusion Criteria</th>
<th>Exclusion Criteria</th>
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<tbody>
<tr>
<td>Clinical Trials</td>
<td>Animal Subjects</td>
</tr>
<tr>
<td>Human Participants</td>
<td>Non-English</td>
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</table>

The outcome measures for the studies were rates of implantation, clinical pregnancy and live birth. The included studies were assessed with PEDro scale for their quality judgment.

**Results**

Out of 219 articles, four studies evaluating the use of heparin and six studies evaluating the use of aspirin were included after all the other studies were eliminated based on exclusion criteria or didn’t match the inclusion criteria. All of the studies scored 6 or above out of 11 based on PEDro scale except for Siristatidis et al which scored 4 out of 11. The outcome measures are implantation, clinical pregnancy, and live birth rate. However not all studies include all three measures.

**Heparin**

![Heparin Results Diagram](image1)

**Aspirin**

![Aspirin Results Diagram](image2)

**Discussion**

Two of the included heparin studies showed significant improvement for the IVF treatment. However, their studies cannot be used to conclude that heparin alone is able to improve the success rate of IVF treatment in patients without pathological condition because:

- Fawzy et al study involves other intervention besides heparin for the clinical trial
- Qublan et al study was applied to patients with thrombophilia.

All six of aspirin studies showed that aspirin therapy does not significantly improve the rates of implantation, clinical pregnancy and live birth for patients undergoing IVF treatment.

**Conclusion**

This systematic review concludes that the usage of heparin or aspirin for IVF treatment does not significantly improve the success rate of IVF treatment.

**Acknowledgement**

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**Reference**