

**Title:** A review of clinical effectiveness and cost effectiveness of robotic hysterectomy compared with laparoscopic hysterectomy in early stage of cervical cancer.

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**Background:** Cervical cancer is a serious worldwide public health problem. Radical hysterectomy is a standard treatment for early stage cervical cancer. Laparoscopic hysterectomy in early stage cervical cancer has advantages over open surgery. Robotic-assisted surgery is a modern and alternative technology used increasingly nowadays in medical care due to the limited of laparoscopic instrument. It has the potential to overcome some limitations of laparoscopic procedure. However, robotic surgery is costly and currently there is a lack of evidence in terms of clinical effectiveness and cost-effectiveness.

**Aims:** To comparing the clinical effectiveness and cost-effectiveness of robotic hysterectomy with laparoscopic hysterectomy in the treatment for women with early stage cervical cancer.

**Methods:** Two databases; namely EMBASE and MEDLINE were reviewed. The eligible studies were appraised using tools to assess quality of the studies.

**Results:** For clinical effectiveness, fifteen eligible studies were identified and reviewed. They comprise three systematic reviews, one randomised trial and eleven observational studies. The clinical effectiveness of robotic hysterectomy was significant different in terms of operative time, length of stay in hospital, blood loss and blood transfusion rate compared to standard laparoscopic. For cost-effectiveness, ten eligible studies were reviewed. One was systematic review and conducted model for cost-effectiveness and nine were cost comparisons between robotic hysterectomy and standard laparoscopic. The cost of robotic surgery was higher than standard laparoscopic in terms of purchase cost and maintenance.

**Conclusion:** There is currently a lack of high quality evidence in clinical effectiveness and cost-effectiveness of robotic hysterectomy versus laparoscopic hysterectomy in treatment of early stage cervical cancer. There was only one randomized trials included in the review. Robotic surgery requires further research in terms of economic evaluation reported on the health outcomes related to quality of life or long term follow-up.

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