

Cost-Effectiveness of Three Approaches to Hysterectomy: A Randomized Controlled Trial

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Background: Hysterectomy is the commonest major gynaecological surgical procedure. There are many approaches in performing a hysterectomy which depend on clinical criteria. However certain patients are suitable to be operated through any approach. The aim of this study was to provide evidence on the optimal approach in terms of cost-effectiveness between non-descent vaginal hysterectomy (NDVH), total laparoscopic hysterectomy (TLH) and total abdominal hysterectomy (TAH).

Methods: A multi-centre three arm randomized controlled trial is being conducted at the professorial gynaecology unit, North Colombo Teaching Hospital, Ragama and gynaecology unit, District General Hospital, Mannar. Results of the Mannar arm are presented. Study population were women needing hysterectomy for non-malignant uterine causes. Exclusion criteria were uterus ≥ 14 weeks, previous pelvic surgery, those requiring incontinence/pelvic floor surgery, co-morbidities which preclude laparoscopic surgery and women who were illiterate. Primary outcome, time to recover following hysterectomy (earliest time to resume all or a combination of activities done prior to surgery) was assessed through an objective questionnaire. A micro-costing approach calculated utilization of hospital resources from the time of presentation to the gynaecology clinic up to six months after surgery. A Kaplan-Meier survival analysis was done with pairwise comparison through log-rank test. Incremental cost-effectiveness ratios (ICER) were obtained by calculating the incremental costs divided by the incremental effects (time to recover) for the intervention groups (NDVH and TLH) over the standard care (TAH) group.

Results

There was a significant difference in time to recover in TLH [28 days (25.9-30.1), $p < 0.01$] versus TAH [33 days (30.3-35.7)]. There was no significant difference between TAH versus NDVH [30 days (24.3-35.7), $p = 0.07$] and TLH versus NDVH ($p = 0.35$). There was a significant difference in direct cost between the three routes; TLH [Rs.58013 IQ1-IQ3(55735-61908)], NDVH [Rs.42969 IQ1-IQ3(38839-47397)], TAH [Rs.45817 IQ1-IQ3(44030-49822), $p < 0.001$]. $ICER_{TLH-TAH}$ was Rs.2439/day compared to TAH. As both the cost as well as the time to recover was more favourable than TAH, $ICER_{NDVH-TAH}$ was not calculated. $ICER_{TLH-NDVH}$ was Rs.7522/day compared to NDVH.

Conclusion

TLH has a faster recovery compared to NDVH and TAH, albeit at a significantly higher cost. The optimum approach to hysterectomy appears to be NDVH in terms of cost-effectiveness.

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