Cost-effectiveness analysis of medical termination of pregnancy provided by nurse-midwives or physicians in a high resource setting

S Sjöström, a H Kopp-Kallner, a,b, E Simeonova, c A Madestam, d K Gemzell-Danielsson a

a Division of Obstetrics and Gynaecology, Department of Women’s and Children’s Health, Karolinska Institutet, Karolinska University Hospital, Stockholm, Sweden,

b Department of Obstetrics and Gynaecology, Department of Clinical Sciences at Danderyd Hospital, Karolinska Institutet, Stockholm, Sweden,

c John Hopkins University, Carey School of Business, Baltimore, MD, USA,

d Stockholm University, Department of Economics, Stockholm

Sweden

Correspondance: Susanne Sjöström, MD. Division of Obstetrics and Gynaecology, Department of Women’s and Children’s Health, Karolinska Institutet, Karolinska
Why cost-effectiveness?

Cost of healthcare is becoming an increasingly important factor influencing decision makers in both high and low resource settings.

Cost-effectiveness analysis (CEA) compares relative costs and outcomes of different courses of action.
The efficacy, safety and acceptability of medical termination of pregnancy provided by standard care by doctors or by nurse-midwives: a randomised controlled equivalence trial

H Kopp Kallner, a,b R Gomperts, a,c E Salomonsson, a M Johansson, a L Marions, a K Gemzell-Danielsson a

a Division of Obstetrics and Gynaecology, Department of Women’s and Children’s Health, Karolinska Institutet, Karolinska University Hospital, Stockholm, Sweden b Department of Obstetrics and Gynaecology, Department of Clinical Sciences at Danderyd Hospital, Karolinska Institutet, Stockholm, Sweden c Women on Waves, Amsterdam, the Netherlands

Correspondence: Prof K Gemzell Danielsson, Division of Obstetrics and Gynaecology, Department of Women’s and Children’s Health, Karolinska Institutet, Karolinska University Hospital, 171 77 Stockholm, Sweden. Email Kristina.Gemzell@ki.se

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Flow of patients

Figure 1 Flow of patients.

Day 1
- Physicians: Examination, Ultrasound, Contraceptive counselling and prescription, Antibiotics if needed
- Nurse-midwife: Information, Mifepristone + miso and analgetics for home use

Consultations
- 21/533 (4%) Ultrasound 17% Other
- 139/535 (26%) Physicians: Ultrasound 42% Prescription of antibiotics 8% Other

Intervention
- Nurse-midwife: Examination, Ultrasound, Contraceptive counselling and prescription
- Provision of Mifepristone + miso and analgetics for home use

24-48 hrs after mifepristone
- Misoprostol at clinic or self-administered at home
  - Unscheduled visits: 44/489 (9.0%)
  - Surgery: 5 women
  - Unscheduled visits: 46/473 (9.7%)
  - Surgery: 12 women

Approx. 3 weeks
- Follow-up low-sensitivity u-hCG
## Direct costs

<table>
<thead>
<tr>
<th>Cost item</th>
<th>Time Standard (h)</th>
<th>Time Intervention (h)</th>
<th>Cost Standard (SEK)</th>
<th>Cost Intervention (SEK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwife time (procedure)</td>
<td>0.5</td>
<td>0.7</td>
<td>159</td>
<td>223</td>
</tr>
<tr>
<td>Physician time (procedure)</td>
<td>0.5</td>
<td>0</td>
<td>187</td>
<td>0</td>
</tr>
<tr>
<td>Examination room usage</td>
<td>1.0</td>
<td>0.7</td>
<td>45</td>
<td>32</td>
</tr>
<tr>
<td>Consultation time with physicians</td>
<td>0.01</td>
<td>0.03</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Cost of treated patient’s time</td>
<td>1</td>
<td>0.7</td>
<td>127</td>
<td>89</td>
</tr>
</tbody>
</table>

### Direct cost/ procedure SEK

- Standard: 521 SEK
- Intervention: 354 SEK

- Standard: 58 EUR
- Intervention: 39 EUR

Costs were expressed in Swedish Krona (average exchange rate 2011 1US$=SEK 6.775; 1 Euro €=SEK 9.0298)
Costs for unscheduled visits, complications and surgery

<table>
<thead>
<tr>
<th></th>
<th>Standard treatment (n)</th>
<th>Intervention (n)</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Physician and NMW</td>
<td>NMW</td>
<td></td>
</tr>
<tr>
<td>Unscheduled visits</td>
<td>195 (46/473 (9.7%))</td>
<td>178 (44/489 (9%))</td>
<td>-3 to 4.5% P = 0.7</td>
</tr>
<tr>
<td>Complications</td>
<td>126 (29/472 (6.1%))</td>
<td>84 (20/493 (4.1%))</td>
<td>-0.7 to 5% P = 0.14</td>
</tr>
<tr>
<td>Surgery</td>
<td>299</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>SEK</td>
<td>620</td>
<td>412</td>
<td></td>
</tr>
<tr>
<td>EUR</td>
<td>69</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>

Costs were expressed in Swedish Krona (average exchange rate 2011 1US$=SEK 6.775; 1 Euro €=SEK 9.0298)
Costs for training

Physicians:
No additional training

Nurse Midwives:
Ultrasound training from consultant (study setting)
or ultrasound course
50 supervised independent ultrasounds

€2.55 per procedure
LARC after abortion?

US: If 10% of women aged 20–29 years switched from oral contraception to LARC, total costs would be reduced by $288 million per year

Home-abortion?
Conclusion

- Intervention treatment EUR 21.5 cheaper per procedure (direct cost including training)
- Cost for complication/ unscheduled visits/ surgery reduced by EUR 23 (average per procedure)

Additional factors
- Reduced waiting time for “the next patient”
- More effective contraception (LARCs) reduce overall costs for un-intended pregnancy
- Home abortion
Thank you!

susanne.sjostrom@ki.se