The impact of a liberalisation law on legally induced abortion hospitalisations

Manuel Gonçalves-Pinho\textsuperscript{a,b,*}, João V. Santos\textsuperscript{a,b}, Antónia Costa\textsuperscript{c,d}, Altamiro Costa-Pereira\textsuperscript{a,b}, Alberto Freitas\textsuperscript{a,b}

\textsuperscript{a} Department of Health Information and Decision Sciences, Faculty of Medicine, University of Porto, Rua Dr. Plácido da Costa, s/n, 4200-450 Porto, Portugal
\textsuperscript{b} Center for Health Technology and Services Research (CINTESIS), Rua Dr. Plácido da Costa, s/n, 4200-450 Porto, Portugal
\textsuperscript{c} Department of Obstetrics and Gynecology, Faculty of Medicine, University of Porto, Alameda Hermâni Monteiro, s/n, 4200-450 Porto, Portugal
\textsuperscript{d} Obstetrics and Gynecology Department, Hospital São João, Alameda Hermâni Monteiro, s/n, 4200-450 Porto, Portugal
Legal abortion based purely in maternal option without fetal/maternal pathology was liberalised in Portugal in 2007

Since then abortion rates ↑
Objective:

Total legal induced abortion related hospitalisation trends

Liberalisation of abortion by maternal request

Before 2007 After
Inclusion criteria: hospitalisations of legal induced abortion (LIA) (ICD-9-CM codes 635.x)

Time period: 2000 ➔ 2014

Source: Portuguese databases:
- **ACSS (Central Administration of the Health System)** ➔ all data public hospitalisations in mainland Portugal
- **INE (National Statistics Institute)** ➔ total performed LIA in mainland Portugal
- **DGS (General Direction of Health)** ➔ LIA data in mainland Portugal

Parameters analyzed:
- hospitalisations per abortion = Nº LIA hospitalisations/Nº LIA
- mean age
- Nº hospitalisations per age group
- complications
- admission type: elective versus emergent
- length of stay

Statistics methods:
- Descriptive statistics: IBM SPSS Statistics 22™
- Mann-Whitney tests
- Independent sample t-tests
- Chi-square tests
- Linear regressions models 95% CI
RESULTS:
FREQUENCY OF LEGALLY INDUCED ABORTIONS (LIA) AND LIA HOSPITALIZATIONS IN PORTUGAL

Abortion liberalisation

Number

LIA
LIA related hospitalization

Years

RESULTS:
LIA RELATED HOSPITALIZATION (%) PER EACH AGE GROUP IN PORTUGAL
# RESULTS:

HOSPITALIZATIONS PER ABORTION IN PORTUGAL

<table>
<thead>
<tr>
<th>Year</th>
<th>LIA  (n)</th>
<th>LIA related hospitalizations  (n)</th>
<th>Emergent Admission (%)</th>
<th>Without complications (%)</th>
<th>Hospitalizations per abortion (Hospitalizations/LIA)</th>
<th>Hospitalization stay - Median length (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>575</td>
<td>618</td>
<td>83.5</td>
<td>87.2</td>
<td>1.07</td>
<td>2</td>
</tr>
<tr>
<td>2001</td>
<td>659</td>
<td>657</td>
<td>85.1</td>
<td>83.1</td>
<td>1.00</td>
<td>2</td>
</tr>
<tr>
<td>2002</td>
<td>811</td>
<td>680</td>
<td>76.9</td>
<td>86.6</td>
<td>0.84</td>
<td>2</td>
</tr>
<tr>
<td>2003</td>
<td>547</td>
<td>742</td>
<td>76.1</td>
<td>87.2</td>
<td>1.36</td>
<td>2</td>
</tr>
<tr>
<td>2004</td>
<td>695</td>
<td>809</td>
<td>76.0</td>
<td>86.2</td>
<td>1.16</td>
<td>2</td>
</tr>
<tr>
<td>2005</td>
<td>783</td>
<td>839</td>
<td>67.1</td>
<td>85.6</td>
<td>1.07</td>
<td>2</td>
</tr>
<tr>
<td>2006</td>
<td>1,195</td>
<td>902</td>
<td>65.6</td>
<td>89.6</td>
<td>0.75</td>
<td>2</td>
</tr>
<tr>
<td>2007</td>
<td>4,323</td>
<td>1,152</td>
<td>64.7</td>
<td><strong>88.3</strong></td>
<td><strong>0.27</strong></td>
<td><strong>2</strong></td>
</tr>
<tr>
<td>2008</td>
<td>12,919</td>
<td>1,423</td>
<td>60.2</td>
<td>83.9</td>
<td>0.11</td>
<td>2</td>
</tr>
<tr>
<td>2009</td>
<td>13,504</td>
<td>1,455</td>
<td>58.6</td>
<td>84.5</td>
<td>0.11</td>
<td>2</td>
</tr>
<tr>
<td>2010</td>
<td>13,780</td>
<td>1,603</td>
<td>59.2</td>
<td>88.0</td>
<td>0.12</td>
<td>1</td>
</tr>
<tr>
<td>2011</td>
<td>13,604</td>
<td>1,443</td>
<td>53.9</td>
<td>86.5</td>
<td>0.11</td>
<td>1</td>
</tr>
<tr>
<td>2012</td>
<td>13,149</td>
<td>1,419</td>
<td>54.2</td>
<td>87.0</td>
<td>0.11</td>
<td>1</td>
</tr>
<tr>
<td>2013</td>
<td>12,489</td>
<td>1,345</td>
<td>57.9</td>
<td>91.0</td>
<td>0.11</td>
<td>1</td>
</tr>
<tr>
<td>2014</td>
<td>11,512</td>
<td>1,259</td>
<td>56.7</td>
<td>90.9</td>
<td>0.11</td>
<td>1</td>
</tr>
</tbody>
</table>
RESULTS

LIA (n)

Hospitalisations

Nº hospitalisation/abortion

Mean age of hospitalisation (years)

2000 2007 2014

575 13 780 11 512

618 1 603 1 259

1.07 0.11

30.8 31.0

p<0.001

p<0.001

Most frequent: 25-39 years

p=0.04
RESULTS

Emergent admission

2000: 83.5%  
2007: 56.7%  
p<0.001

Complications

Most frequent: delayed/excessive hemorrhage (4.6%)  
p=0.007

12.8% stable  
9.1%

Median hospital stay (days)

2010: 2  
2014: 1
Since the liberalisation:

✓ LA ↑ 15x

✓ Hospitalisations not even doubled

✓ Hospitalisations/abortion ↓ → major impact of LIA by maternal request liberalisation on abortion trends nationwide.

Before the liberalisation: 1 LA → 1 hospitalisation

After the liberalisation: 10% of LA → 1 hospitalisation
CONCLUSIONS

LA hospitalisations occur more within LA due to maternal/fetal pathology

LA for maternal/fetal indications:
↑ Maternal comorbidities occur at ↑ gestational ages
↓ complications
↓ hospital lengths

LIA hospitalisations are more frequent at 25-39 years, an older age group, when compared to the one registered in all cases of LA, reflecting the differences between those hospitalised and those who are not.
Limitations:

- Possible under registration of LIAs (namely by pure maternal option) by INE;
- An overlapping of cases recorded in this database may be present as the same LIA, in some extreme conditions, may lead to more than one registered episode (hospitalization);
- Our database did not differentiate neither LIAs performed by maternal request versus for maternal/fetal indications.

Strengths:

First study to access data about LIA-related hospitalizations in Portugal before and after the passing of the law.
The impact of a liberalisation law on legally induced abortion hospitalisations

Manuel Gonçalves-Pinho a,b,*, João V. Santos a,b, Antónia Costa c,d, Altamiro Costa-Pereira a,b, Alberto Freitas a,b

a Department of Health Information and Decision Sciences, Faculty of Medicine, University of Porto, Rua Dr. Plácido da Costa, s/n, 4200-450 Porto, Portugal
b Center for Health Technology and Services Research (CINTESIS), Rua Dr. Plácido da Costa, s/n, 4200-450 Porto, Portugal
c Department of Obstetrics and Gynecology, Faculty of Medicine, University of Porto, Alameda Hernâni Monteiro, s/n, 4200-450 Porto, Portugal
d Obstetrics and Gynecology Department, Hospital São João, Alameda Hernâni Monteiro, s/n, 4200-450 Porto, Portugal