Cancellation rate and reasons for elective surgery at Srinagarind Hospital

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Background

- The cancellation of elective surgery leads to an inefficient use of operating room time and a waste of resources
- It can also affect patients and their families in terms of cost and emotional involvement

Objective

- To determine cancellation rate and reasons for elective surgery at Srinagarind Hospital

Methods

Prospective descriptive study

Patients who were scheduled for elective surgery

Sample size

\[ N = \frac{Z_{1-\alpha}^2 \cdot P(1-P)}{d^2} \]

- \( Z_{1-\alpha} = 1.96 \)
- \( 1 - \alpha = 95 \)
- \( P = 0.099 \)
- \( d = 0.0099 \)
- \( N = 3497 \)

Duration 3.91 months
Between June 1, 2012 and September 30, 2012 at Srinagarind Hospital

Methods

The total number of patients who were scheduled for elective surgery

Number of cancellation cases was daily recorded

The reasons for cancellation

Inform consent

Methods

Surgeons

Anesthesiologists

Perioperative nurse

Reasons for cancellation

Patient's factors:
- Medical problem
- Appointment inconvenient
- Patient decline surgery

Doctor's factors:
- List overrun
- Surgeon not available
- Not enough anesthesiologists available
- Change of treatment plan

Hospital service's factors:
- No bed
- No ICU
- No blood
- Administrative error

Reasons for cancellation of elective surgery

Statistic analysis

- For categorical variables: number and percent

Result

Table 1 Rate and reasons for cancellation

<table>
<thead>
<tr>
<th>Surgical specialty</th>
<th>Elective case</th>
<th>Cancellation rate (%)</th>
<th>Reasons for cancellation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patient (%)</td>
<td>Doctor (%)</td>
<td>Hospital service (%)</td>
</tr>
<tr>
<td>General Surgery</td>
<td>913</td>
<td>34 (3.72)</td>
<td>3 (0.33)</td>
</tr>
<tr>
<td>Neurological Surgery</td>
<td>151</td>
<td>1 (0.66)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>Pediatric Surgery</td>
<td>225</td>
<td>11 (4.89)</td>
<td>2 (18.18)</td>
</tr>
<tr>
<td>Plastic Surgery</td>
<td>318</td>
<td>2 (0.63)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>Urologic Surgery</td>
<td>177</td>
<td>6 (3.39)</td>
<td>1 (16.67)</td>
</tr>
<tr>
<td>Cardiovascular thoracic Surgery</td>
<td>137</td>
<td>4 (3.67)</td>
<td>1 (7.69)</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>847</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>Obstetrics and Gynecology</td>
<td>347</td>
<td>3 (0.86)</td>
<td>1 (33.33)</td>
</tr>
<tr>
<td>Otorhinolaryngology</td>
<td>583</td>
<td>5 (0.86)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>269</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
</tr>
<tr>
<td>Dentistry</td>
<td>49</td>
<td>3 (6.12)</td>
<td>2 (66.67)</td>
</tr>
<tr>
<td>total</td>
<td>4016</td>
<td>83 (2.08)</td>
<td>9 (11.11)</td>
</tr>
</tbody>
</table>

95% CI = 1.6-2.5%
From this study, the cancellation rate of elective surgery at Srinagarind Hospital was 2.02%, decreased from the previous study at 9.9%\(^1\).

The most common reason of cancellation rate was list overrun at 75.3% due to

- Inappropriate operating schedule; 83.6%
- The operating time longer than expected; 16.4%

Most of the cases were from general surgery similar to the study by Mesmar M et al.\(^1\), but different from the previous study \(^2\) that from CVT.
Discussion

- According to the medical problem that caused the cancellation, the most usual reason was fever and infection which is different from the previous study\(^1\) that showed from cardiovascular system.

Conclusion

- The cancellation rate was 2.02% at Srinagarind Hospital.
- List overrun was the most common reason.
- The reductions might be achieved by appropriate strategies to prevent unnecessary cancellation.


Figure 1 The cancellation rate in each department

Figure 1 The cancellation rate by surgical specialty
### Justification

<table>
<thead>
<tr>
<th></th>
<th>2000 (July-Dec 2000)</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR + LR</td>
<td>18:1</td>
<td>20+1, (Endo 1, OR-OUTPATIENT 1) (start 2010)</td>
</tr>
<tr>
<td>Anes Staff</td>
<td>12</td>
<td>18 (start June 2011)</td>
</tr>
<tr>
<td>Resident</td>
<td>14</td>
<td>18 (start June 2011)</td>
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<tr>
<td>Anes Nurse</td>
<td>37</td>
<td>59 (start June 2011)</td>
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<tr>
<td>Ambulatory Pre-op clinic</td>
<td>No</td>
<td>Yes (start 2009)</td>
</tr>
<tr>
<td>Online consultation</td>
<td>No</td>
<td>Yes (start 2010)</td>
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<tr>
<td>Consult</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>ECT, MRI</td>
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<td>Yes</td>
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<tr>
<td>Dental service</td>
<td>Yes</td>
<td>Yes</td>
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<td>Policy changing</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Annual service report at Srinagarind Hospital, 2000-2010