



CHIPS

Intervention study surgical prophylaxis

RIVM



CBO



Erasmus MC



UMC St.Radboud



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Aim of the project

to study and to improve the quality of surgical prophylaxis in the Netherlands

- **decrease the use of broad-spectrum antibiotics**
- **shorten the duration of prophylaxis**
- **improve timing**
- **decrease costs**

Final goal

- **To slow down the process of development of resistance by optimising antibiotic drug use**
- **with equal efficacy in terms of reducing the incidence of surgical site infections (SSI)**

Study design

- Pre- intervention period
- Intervention period:
implementation of SWAB-guideline
- Post-intervention period

Inclusion-criteria

Elective procedures for which prophylaxis is indicated

- **clean:** total hip implantation
reconstruction aorta
fem-pop / tib bypass
- **clean contaminated:** vaginal hysterectomy
abdominal hysterectomy
colon-resection and
low-anterior resection

Data collection

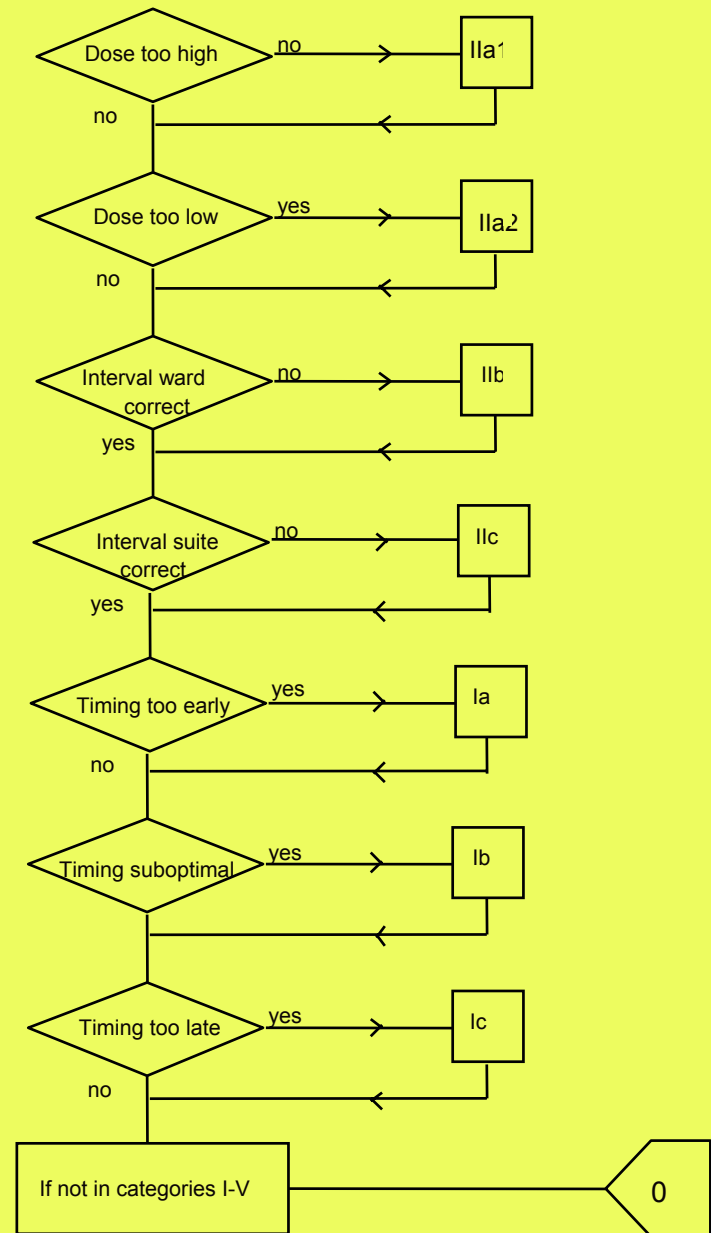
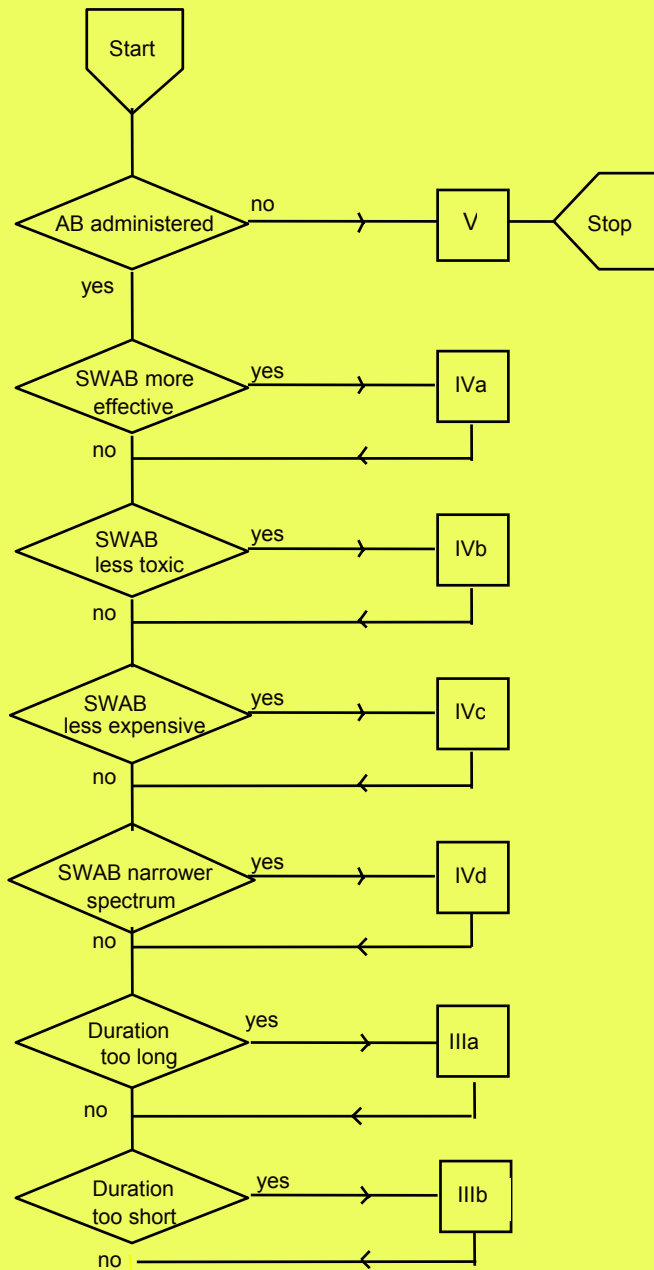
- Data on surgical prophylaxis
- Data on surgical site infections (PREZIES)
- Data collected by infection control practitioner

Quality assessment

- According to hospital guidelines
- According to SWAB-guideline



i.v cefazolin (+ metronidazol)
single-dose
max. 30 min before incision



Intervention

- **audit and feedback :**

- ➔ **distribution of written reports with data of pre intervention period**

- ➔ **plenary meetings and lectures with**

- **antibiotic policy committees**

- **surgeons**

- **anaesthetists & anaesthesiology personnel**

Intervention

- **inventory of barriers to change**
- **suggestions for improvement**
- **written report of opinionleader**
- **modification of local guidelines**
- **improvement of logistics**

Intervention

- **implementation of new guidelines by**
 - **introduction in meetings and mailings**
 - **dissimination of new booklets
and written guidelines**
 - **reminders at the wall of the theatre**
 - **change in stocking of antibiotics in
the theatre**

Participation

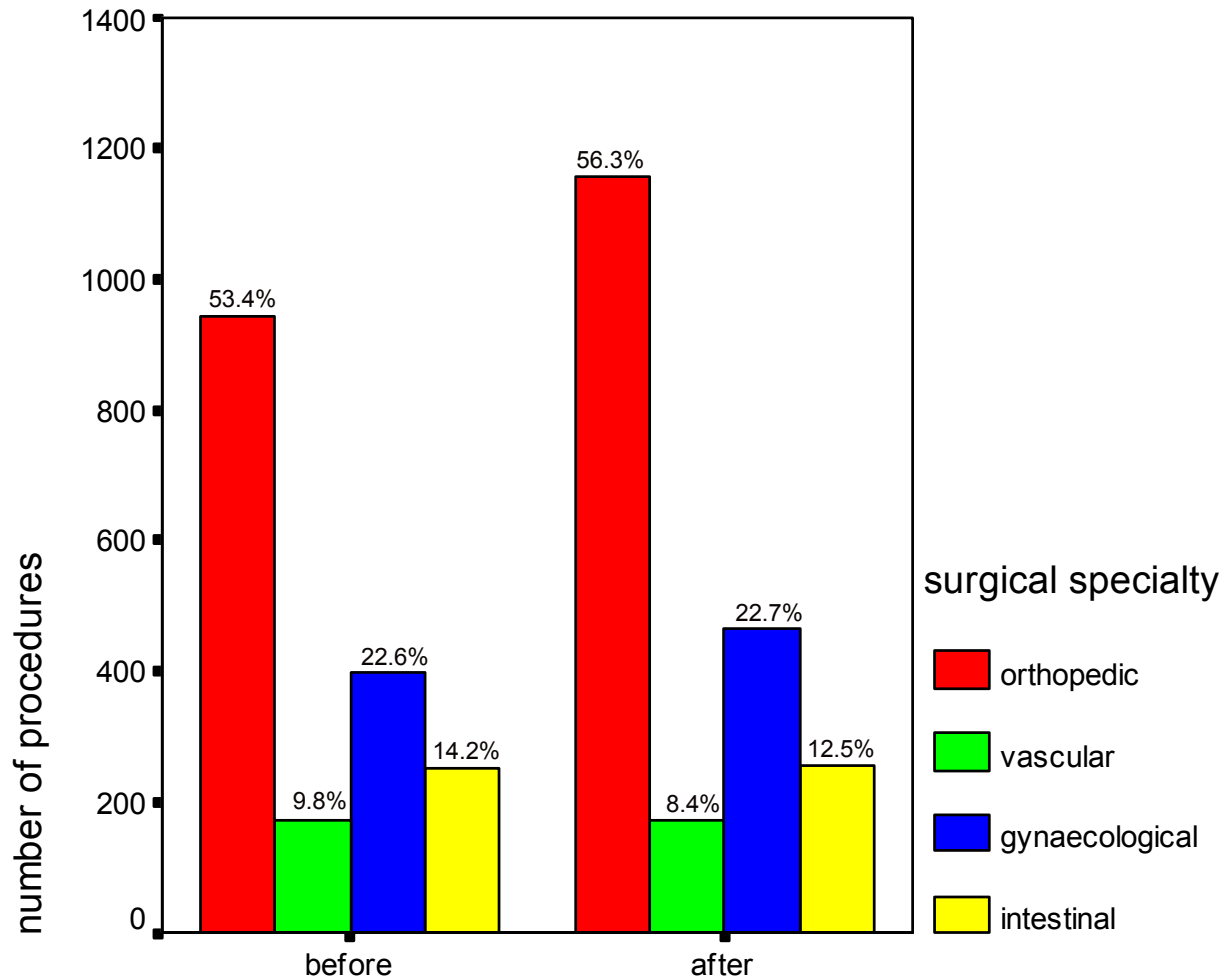
13 hospitals:

- 2 academic hospitals
- 6 non-academic hospitals > 500 beds
- 5 non-academic hospitals < 500 beds

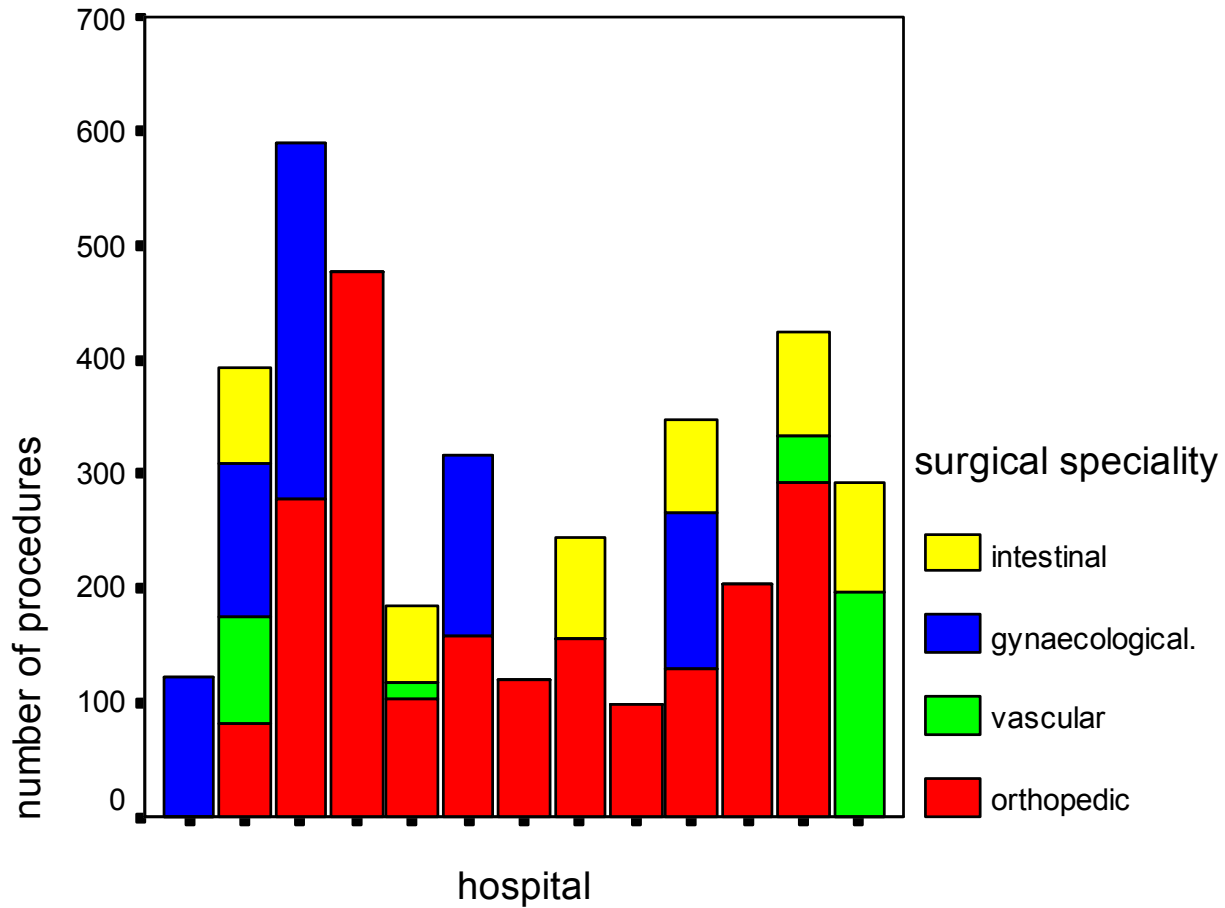
Geographic distribution



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recorded procedures per hospital



Intervention focussed on

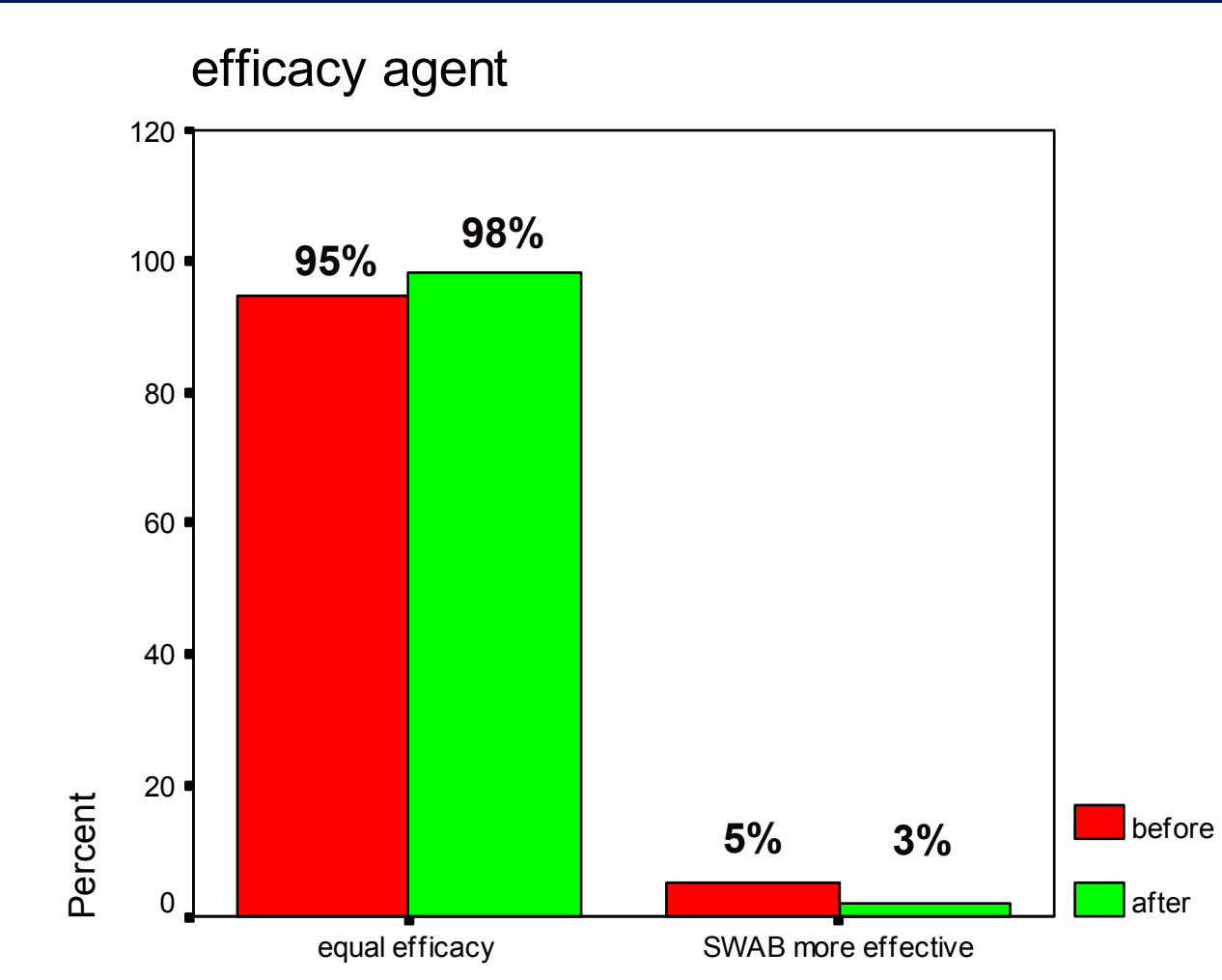
- antibiotic choice
- duration
- timing

- dose
- dosing interval

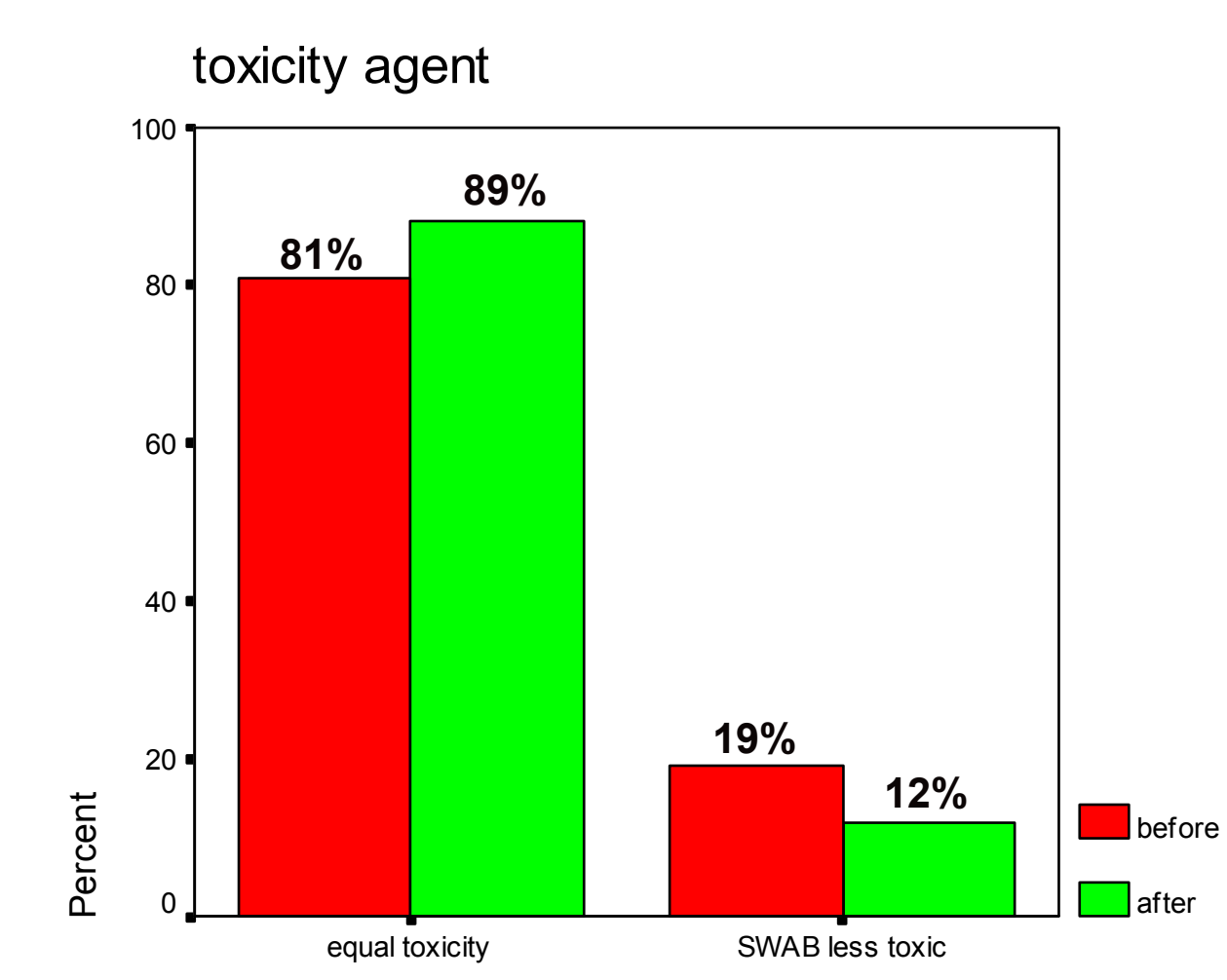
Barriers to change

- **reluctance of orthopaedic surgeons for switch to single dose**
- **timing no priority issue anaesthetists**
- **logistical problems in the theatre**
- **hospital wide change of policy takes more time**

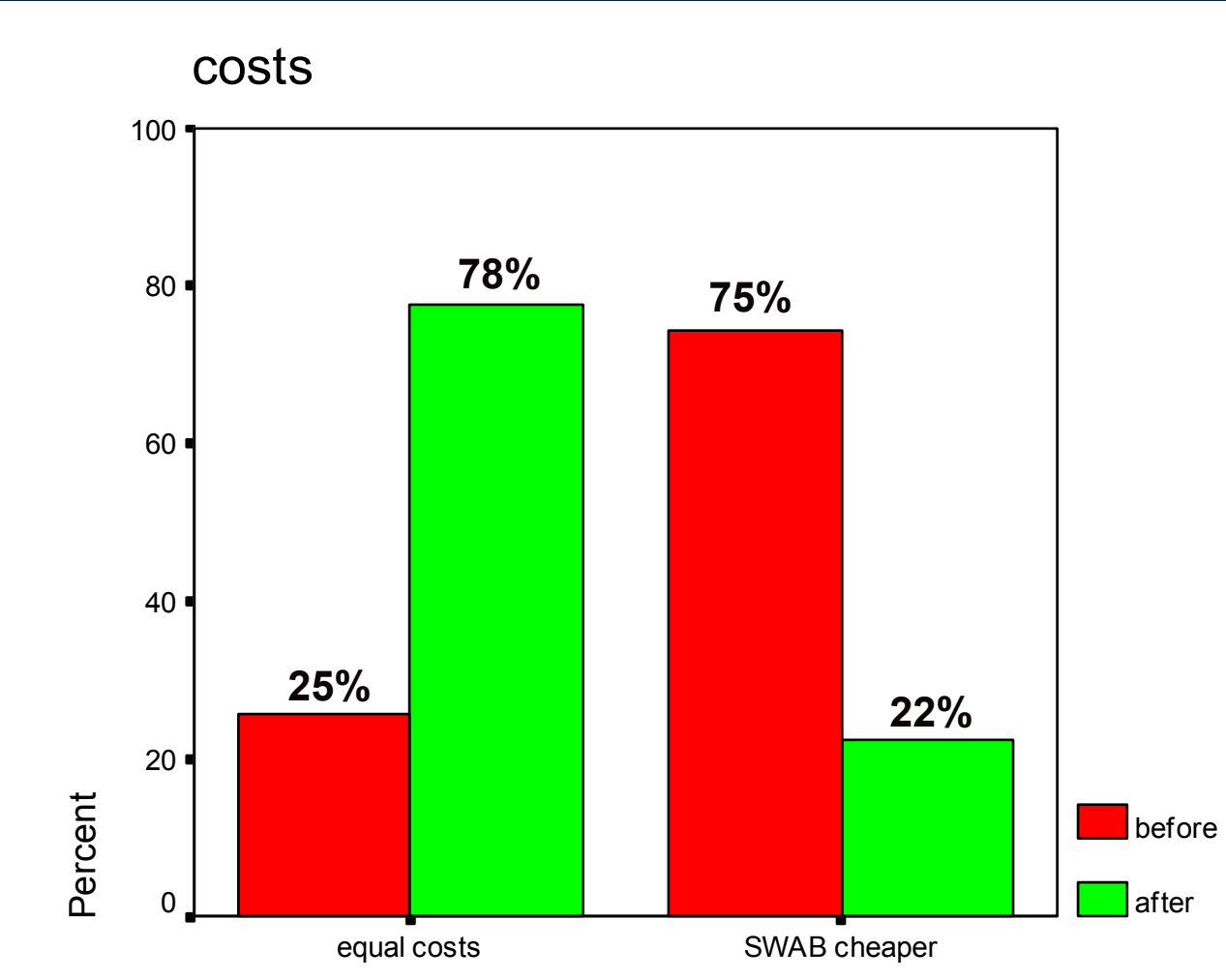
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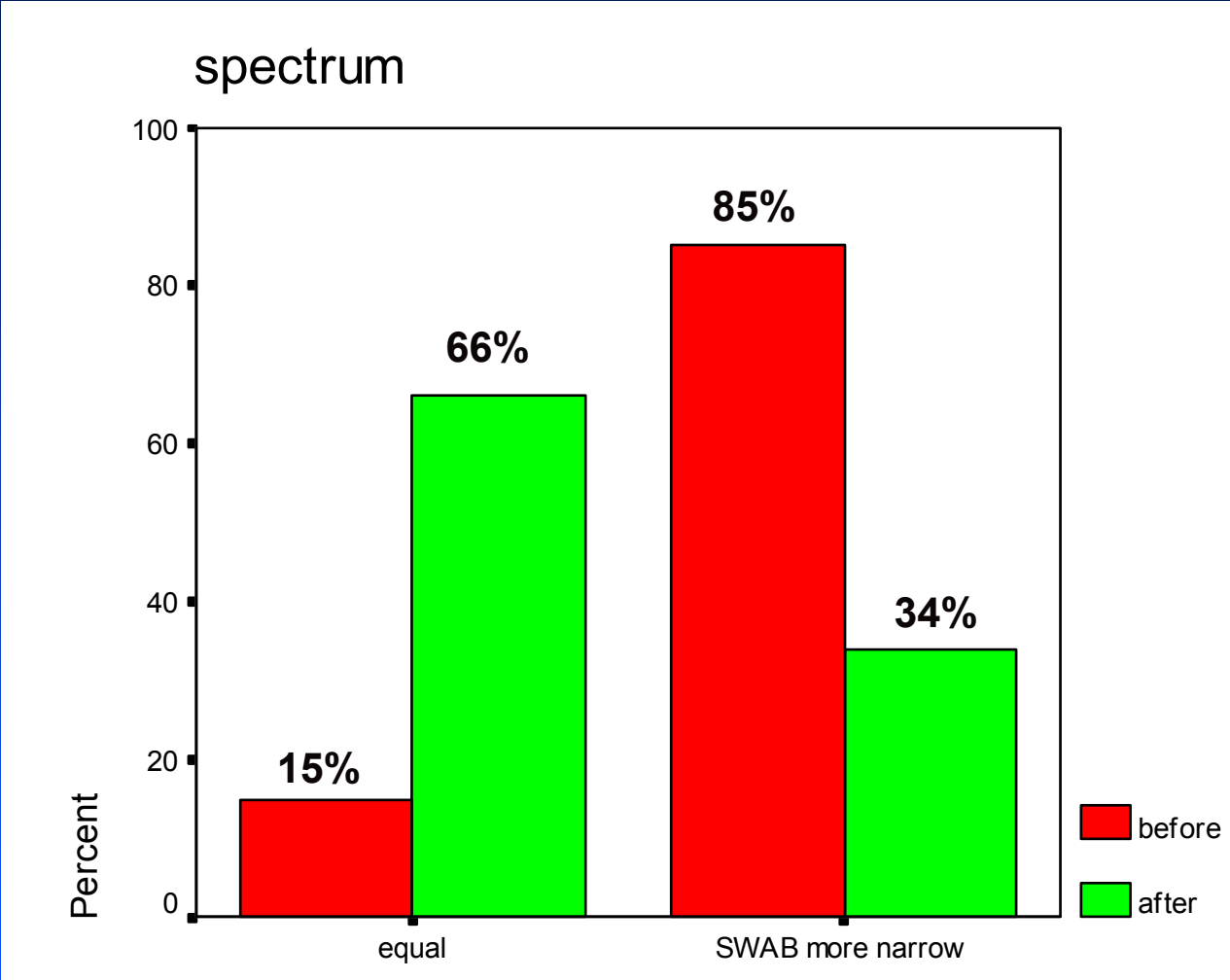
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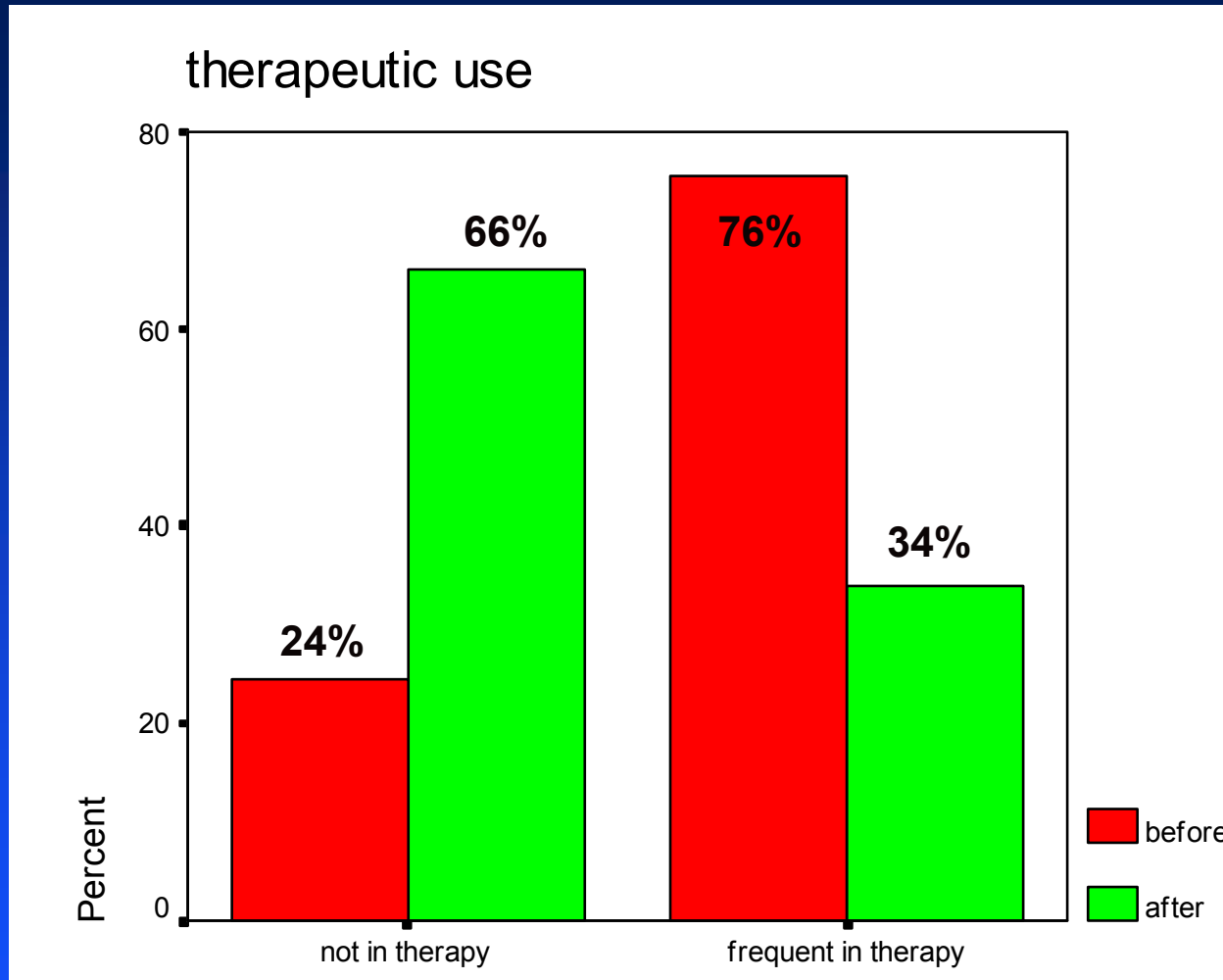
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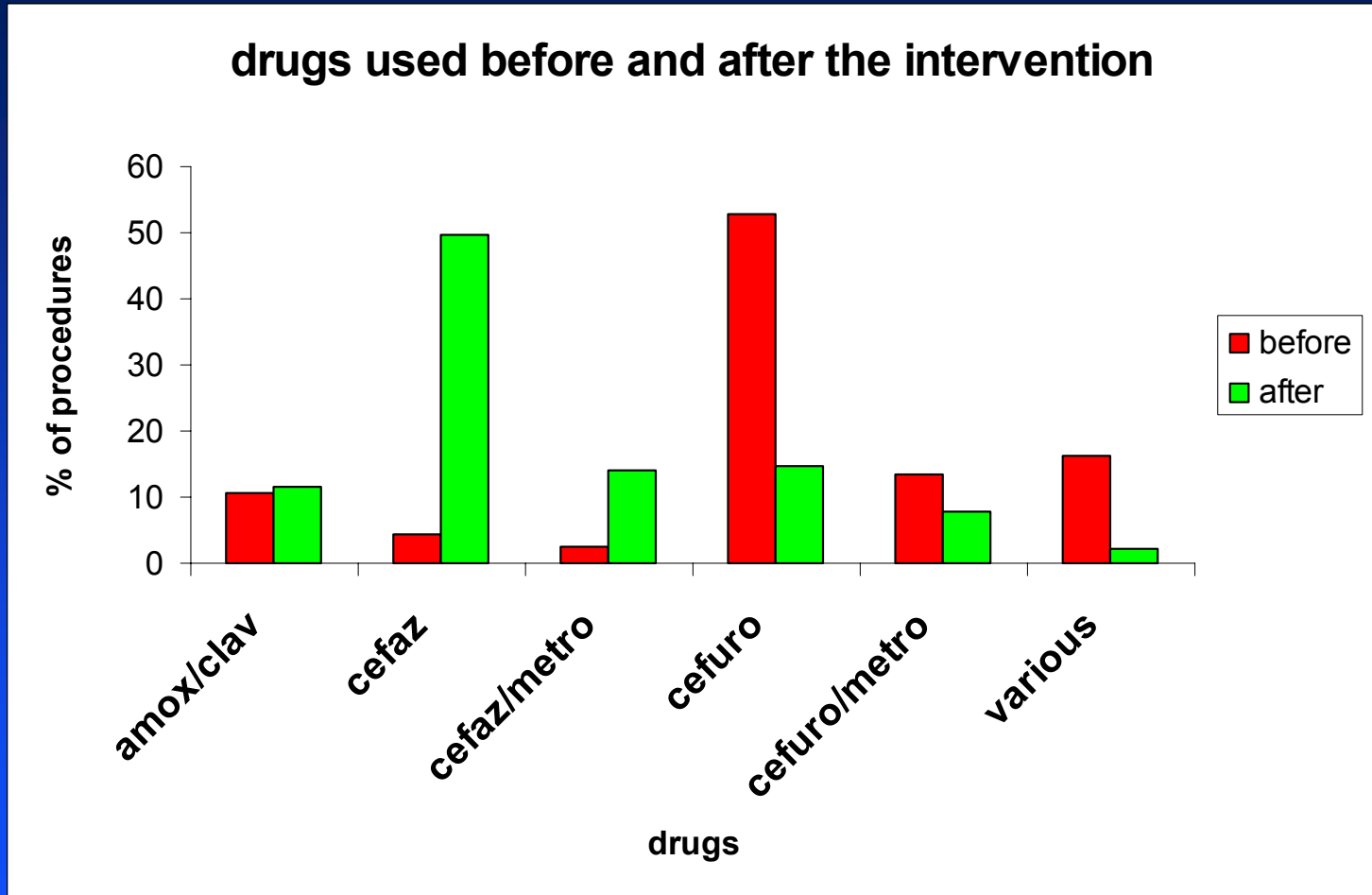
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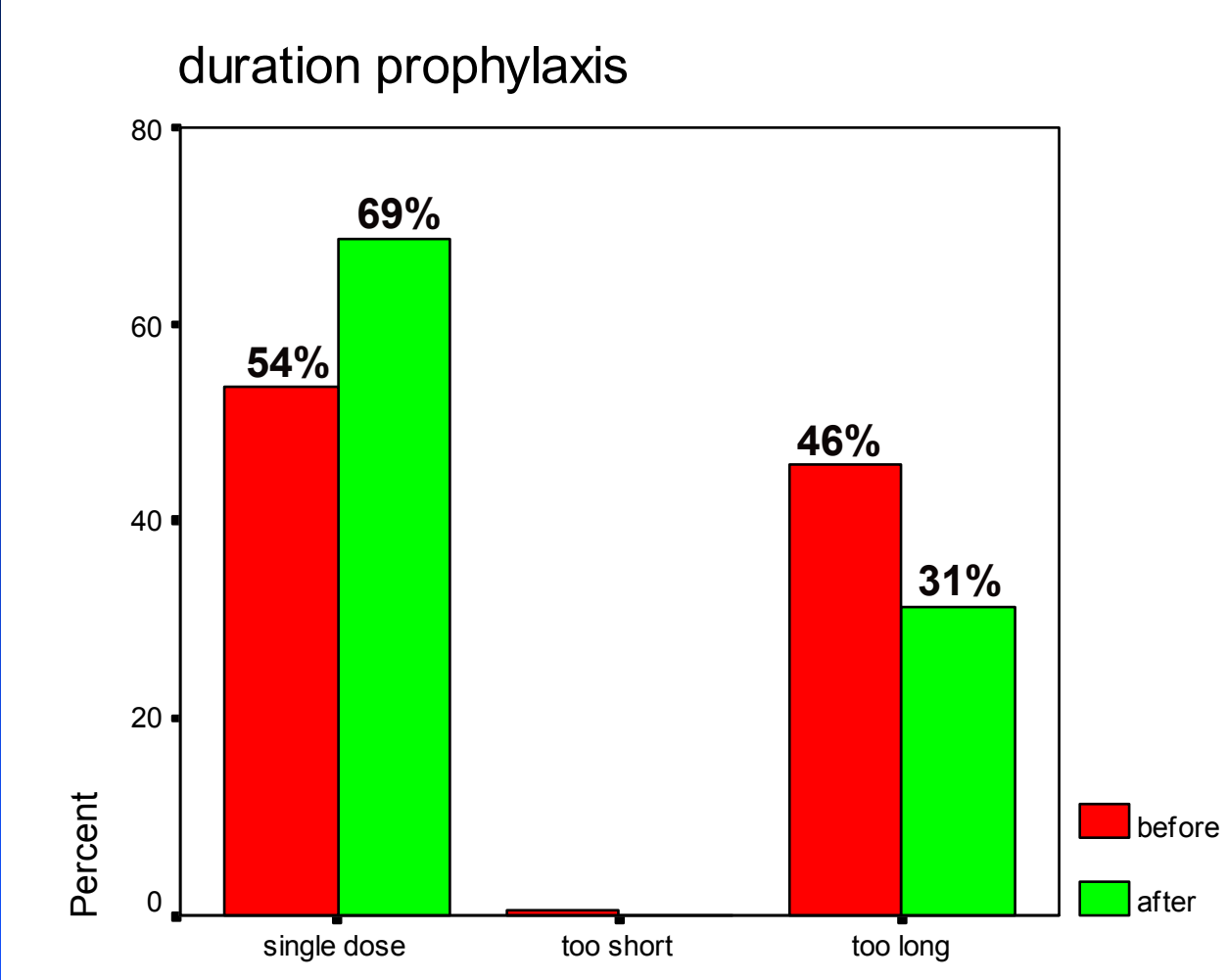
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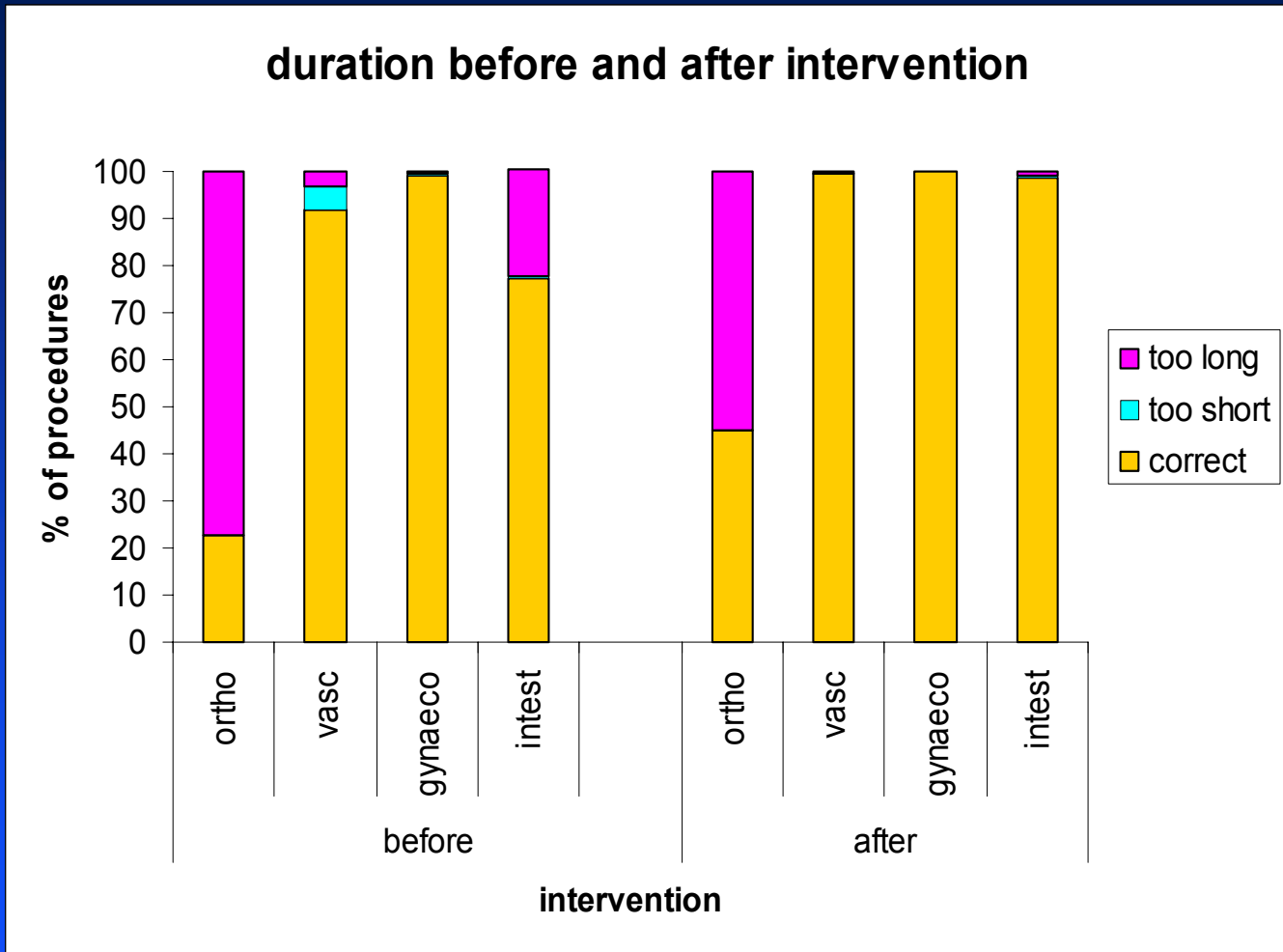
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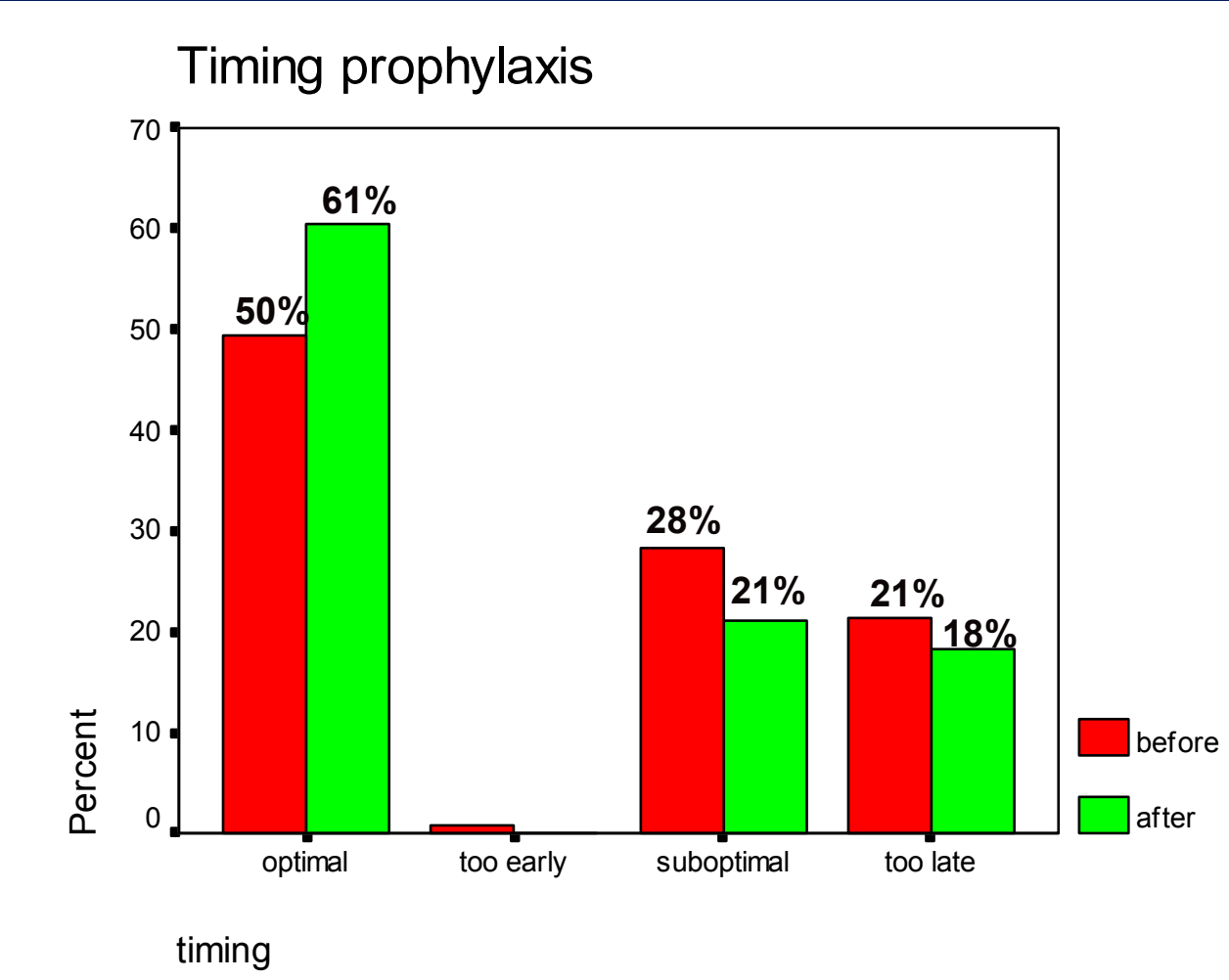
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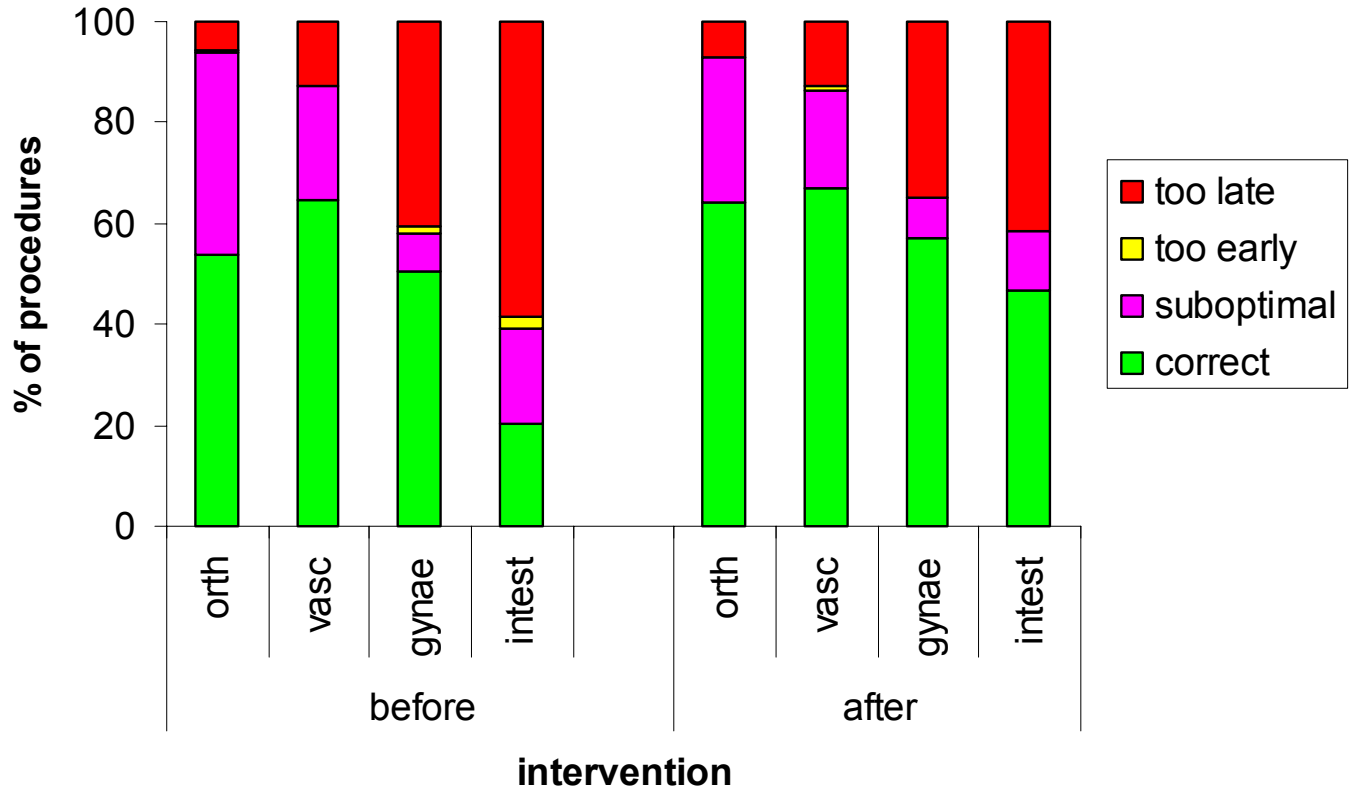
results



results



timing according to specialty



Surgical site infections

	Before	After
procedures	1679	1971
SSI	95 (5.7%)	97 (4.9%) ns

Antimicrobial consumption

	Before	After
DDD/procedure	1.21	0.79
Costs/procedure (euro)	10.96	8.24

Conclusions

- **quality of prophylaxis improved significantly**
- **more prudent use of antibiotics**
- **cost reduction**
- **efficacy unimpaired**



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