# Preventing unsafe abortion


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# Definition of unsafe abortion

- **"...a procedure for terminating unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards of both"** which therefore exposes the women to an increased risk of morbidity and mortality.

(WHO,1993)

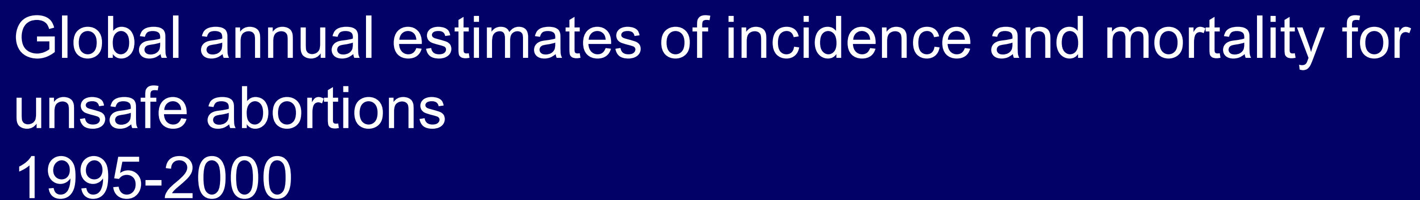
- "abortion" refers to the termination of pregnancy from whatever cause before the fetus is capable of extrauterine life.
- “spontaneous abortion" refers to those terminated pregnancies that occur without deliberate measures
- "induced abortion" refers to termination of pregnancy through a deliberate intervention intended to end the pregnancy (WHO, 1994).

# Abortions world wide – incidence WHO 1995

| Mio/y (%) | overall | Developed regions | Developing regions |
|---|---|---|---|
| Total number | **45.5** | **10** | **35.5** |
| legal | 25.6 | 9.1 | 16.5 |
| Illegal (%) | 19.9 (44) | 0.9 (9) | 19 (54) |

# Abortions world wide – incidence WHO 1995

| Mio/y (%) | Africa | Asia | Eastern Europe | Latin America |
|---|---|---|---|---|
| total | 5.0 | 26.8 | 6.2 | 4.2 |
| legal | ns | 16.9 | 5.4 | 0.2 |
| Illegal (%) | 5.5 (99) | 9.9 (37) | 0.8 (13) | 4.0 (95) |

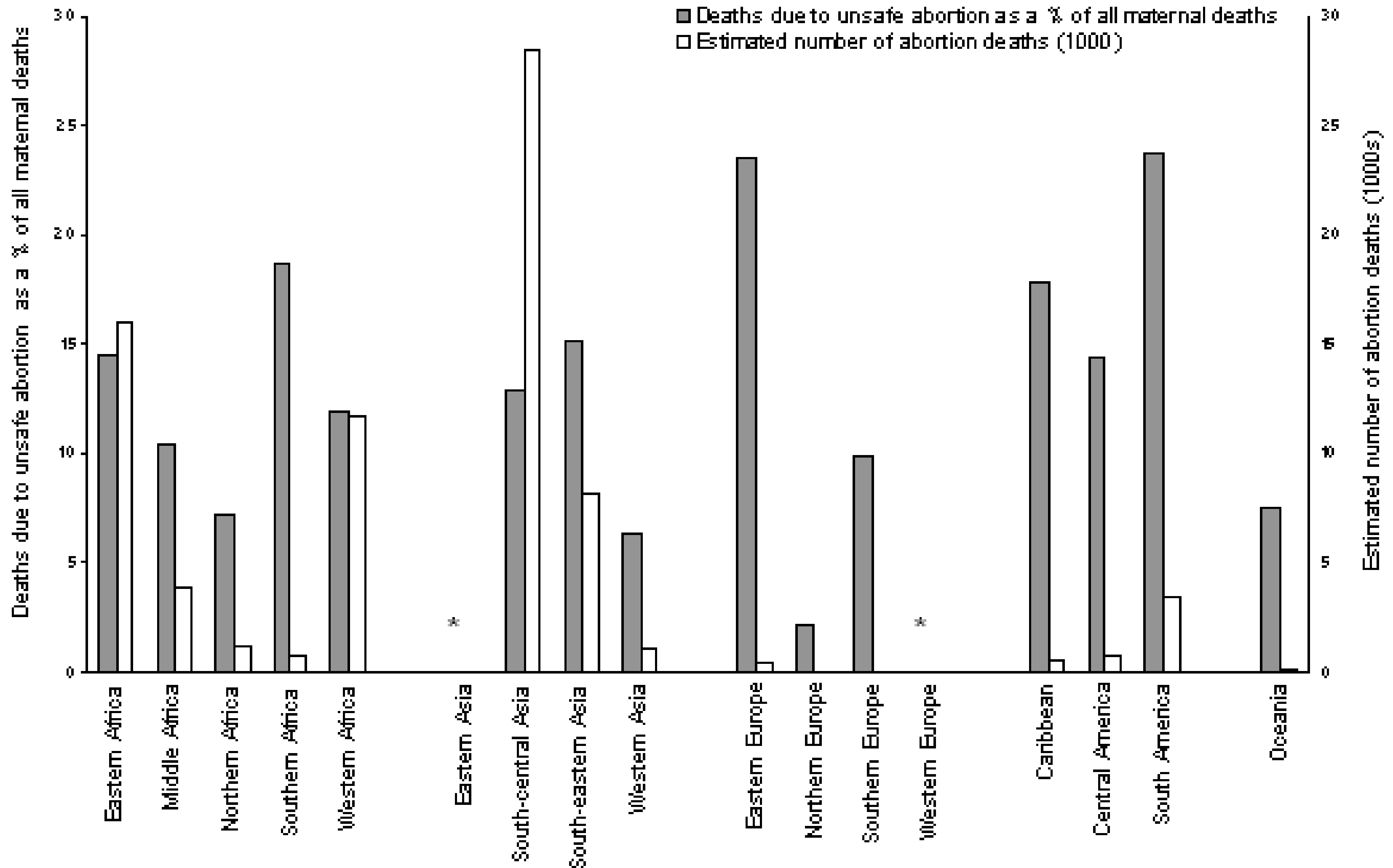


# Global annual estimates of incidence and mortality for unsafe abortions 1995-2000

| | Estimated number of unsafe abortions (*000s*) | Incidence rate (*unsafe abortions per 1 000 women 15-49)* | Incidence ratio (*unsafe abortions per 100 live births)* | Estimated number of deaths due to unsafe abortion | Mortality ratio (*deaths due to unsafe abortion per 100 000 live births*) | Proportion of maternal deaths (*% of maternal deaths due to unsafe abortion*) |
|---|---|---|---|---|---|---|
| WORLD TOTAL | 20 000 | 13 | 15 | 78 000 | 57 | 13 |
| MORE DEVELOPED REGIONS* | 900 | 3 | 7 | 500 | 4 | 13 |
| LESS DEVELOPED REGIONS | 19 000 | 16 | 16 | 77 500 | 63 | 13 |

| | Estimated number of unsafe abortions (*000s*) | Incidence rate (*unsafe abortions per 1 000 women 15-49)* | Incidence ratio (*unsafe abortions per 100 live births)* | Estimated number of deaths due to unsafe abortion | Mortality ratio (*deaths due to unsafe abortion per 100 000 live births*) | Proportion of maternal deaths (*% of maternal deaths due to unsafe abortion*) |
|---|---|---|---|---|---|---|
| AFRICA | 5 000 | 27 | 16 | 34 000 | 110 | 13 |
| ASIA* | 9 900 | 11 | 13 | 38 500 | 48 | 12 |
| EUROPE | 900 | 5 | 12 | 500 | 6 | 17 |
| LATIN AMERICA AND CARIBBEAN | 4 000 | 30 | 36 | 5 000 | 41 | 21 |
| NORTHERN AMERICA | ° | ° | ° | ° | ° | ° |
| OCEANIA* | 30 | 15 | 12 | 150 | 51 | 8 |

# Estimated annual mortality due to unsafe abortion, United Nations regions, 1995-2000 WHO/RHT/MSM/97.16



# Methods

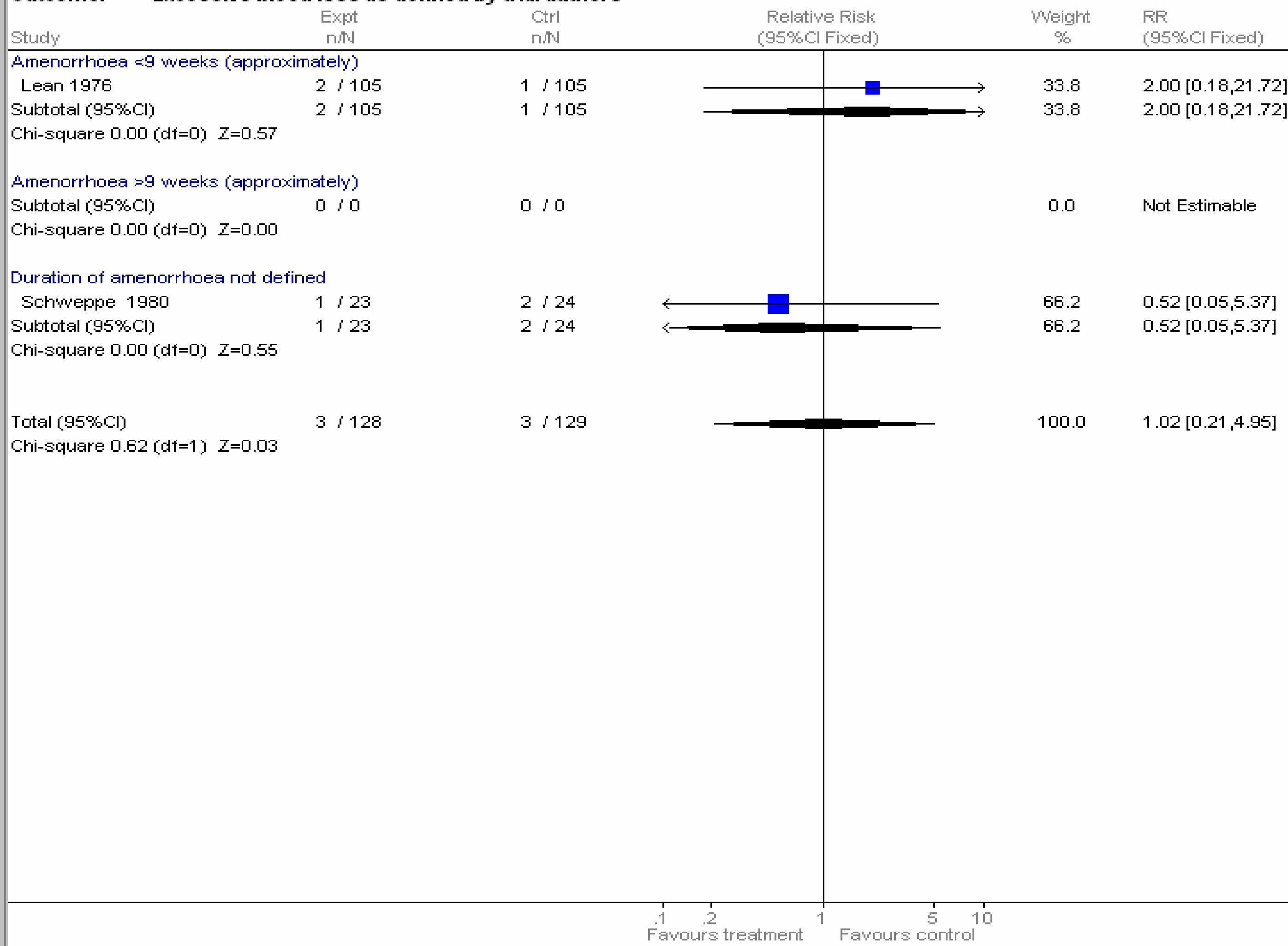
- Surgical
- Non-surgical
- Menstrual regulation (MR)
  - generally used to describe early evacuation of the uterus, after a delayed menses, often without confirmation of pregnancy

# Surgical methods

- Vacuum aspiration
- Dilatation/curettage
- Manual vacuum aspiration (MVA)

# Surgical methods

Kulier 2003



Comparison: **Vacuum aspiration versus dilatation and curettage**
Outcome: **Excessive blood loss as defined by trial authors**

| Study | Expt n/N | Ctrl n/N | Relative Risk (95%CI Fixed) | Weight % | RR (95%CI Fixed) |
|---|---|---|---|---|---|
| Amenorrhoea <9 weeks (approximately) | | | | | |
| Lean 1976 | 2 / 105 | 1 / 105 | | 33.8 | 2.00 [0.18,21.72] |
| Subtotal (95%CI) | 2 / 105 | 1 / 105 | | 33.8 | 2.00 [0.18,21.72] |
| Chi-square 0.00 (df=0) Z=0.57 | | | | | |
| Amenorrhoea >9 weeks (approximately) | | | | | |
| Subtotal (95%CI) | 0 / 0 | 0 / 0 | | 0.0 | Not Estimable |
| Chi-square 0.00 (df=0) Z=0.00 | | | | | |
| Duration of amenorrhoea not defined | | | | | |
| Schweppe 1980 | 1 / 23 | 2 / 24 | | 66.2 | 0.52 [0.05,5.37] |
| Subtotal (95%CI) | 1 / 23 | 2 / 24 | | 66.2 | 0.52 [0.05,5.37] |
| Chi-square 0.00 (df=0) Z=0.55 | | | | | |
| Total (95%CI) | 3 / 128 | 3 / 129 | | 100.0 | 1.02 [0.21,4.95] |
| Chi-square 0.62 (df=1) Z=0.03 | | | | | |

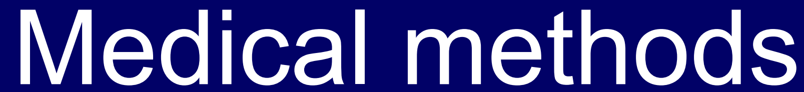
## VA vs D&C

- Cohort studies
  - VA: < 9 weeks: safer

    > 12 weeks: increased uterine injury & blood loss

VA vs MVA

- RCT
  - MVA n = 91
  - VA n = 88
  - Effectiveness
  - Complications




- Misoprostol
- Mifepristone
- Methotrexate
- Tamoxifen
- Combination, dose, route

- Prostaglandin E1
- Effectiveness: < 90%
- Side effects

# Antigestagen

- Developed during 1960s
- Mifepristone (RU 486)
  - Suppression of folliculogenesis and ovulation
  - endometrium
- Receptors
  - Progesteron
  - Glucocorticoid

- Action
  - endometrium
  - uterus
  - cervix
- Pharmacokinetics
  - Linear 2-25 mg/day
  - Non-linear above 100 mg/day

# Mifepristone/Prostaglandin

WHO 2001

- Multicentre trial, 13 centres
- Mifepristone 200 mg/50 mg
- Gemeprost 1 mg/0.5 mg after 48 hours

# Outcomes WHO 2001

| | Mifepristone 200 mg/ Gemeprost 1 mg | Mifepristone 200 mg/ Gemeprost 0.5 mg | Mifepristone 50 mg/ Gemeprost 1 mg | Mifepristone 50 mg/ Gemeprost 0.5 mg |
|---|---|---|---|---|
| Complete abortion | 92.9% | 91.7% | 89.8% | 84.7% |
| Incomplete abortion | 4.9% | 4.6% | 6.8% | 7.2% |
| Missed abortion | 0.3% | 1.5% | 0.3% | 2.0% |
| undetermined | 1.2% | 1.5% | 0.9% | 1.6% |

| | RR (95% CI) |
|---|---|
| Mifepristone 50 mg vs 200mg | 1.6 (1.1 – 2.3) |
| Gemeprost 0.5 mg vs 1mg | 1.3 ( 0.9 – 1.8) |
| Mife 50 mg + Gemeprost 0.5mg vs<br>Mife 200 mg + Gemeprost 1mg | 2.2 (1.3 – 3.5) |

# Mifepristone

- Second trimester
- Cervical ripening
- Induction of labour
- Postcoital contraception
- Endometriosis/Uterine Leiomyomata
- Hormone dependent tumors
- Antiglucocorticoid action

# Methotrexate

- Folic acid antagonist
- Toxic on trophoblast
- Combination with prostaglandin
  - Effectiveness ~ 95 %
- Fetal anomalies

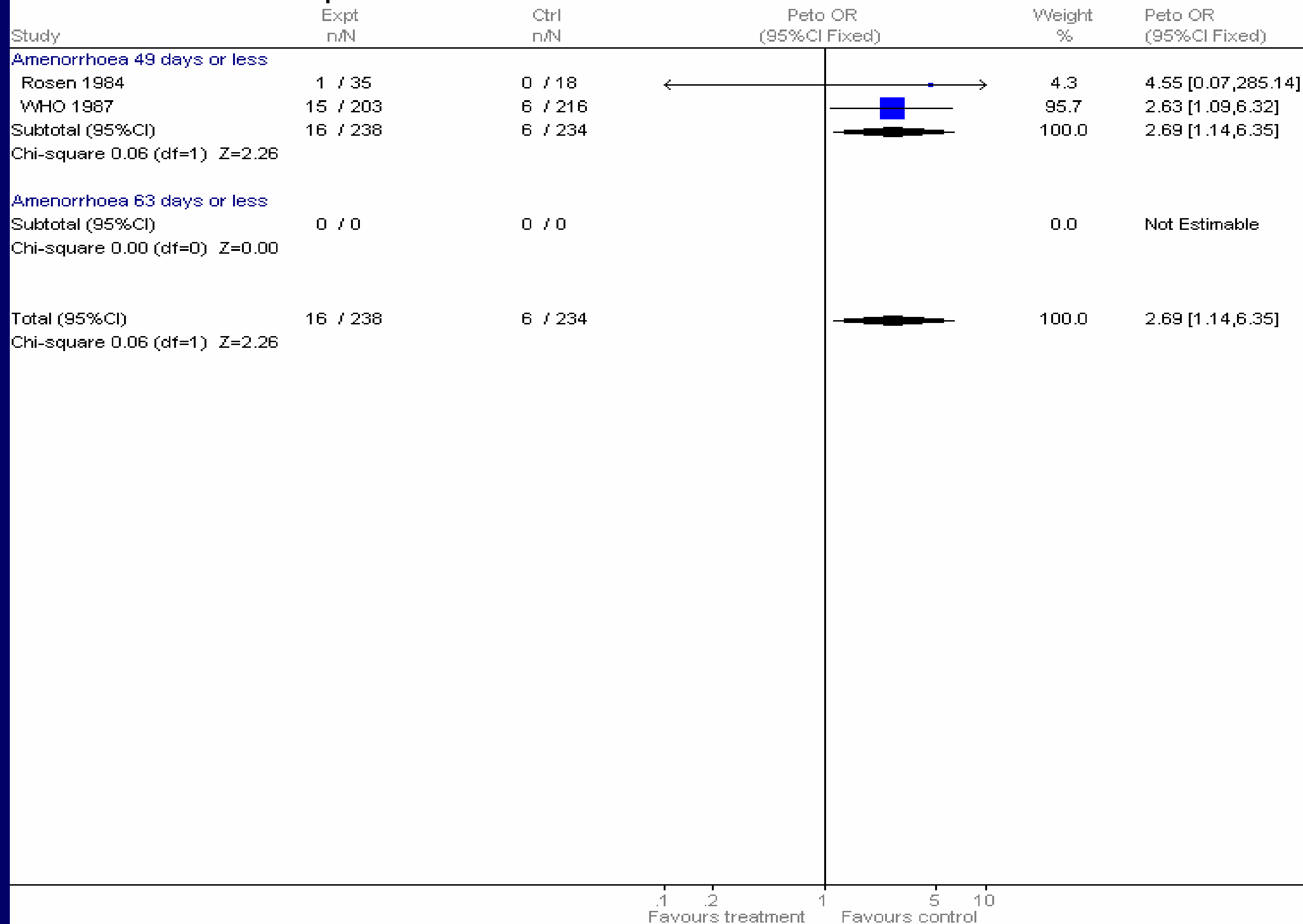
# Medical methods for first trimester abortion

- Systematic review ( in press)
- Approx. 40 RCTs included (02/2003)
- All different comparisons
- Outcomes:
  - Effectiveness
  - Side effects

- Side effects
- Contraindications
- Preferences
- Pregnancy & lactation

- 5 randomised controlled trials
- 4 comparisons:
  - Prostaglandin vs vacuum aspiration
  - Mifepristone vs vacuum aspiration
  - Mifepristone/prostaglandin vs vacuum aspiration
  - Methotrexate/prostaglandin vs vacuum aspiration

# Medical vs surgical Say 2003



# Medical vs surgical

Say 2003

**Comparison:** Prostaglandin vs vacuum aspiration
**Outcome:** Duration of bleeding

| Study | Expt n | Expt mean(sd) | Ctrl n | Ctrl mean(sd) | WMD (95%CI Fixed) | Weight % | WMD (95%CI Fixed) |
|---|---|---|---|---|---|---|---|
| Amenorrhoea less than 49 days | | | | | | | |
| WHO 1987 | 203 | 8.90 (0.90) | 216 | 3.70 (1.40) | | 100.0 | 5.200 [4.976,5.424] |
| Subtotal (95%CI) | 203 | | 216 | | | 100.0 | 5.200 [4.976,5.424] |
| Chi-square 0.00 (df=0) Z=45.49 | | | | | | | |
| Amenorrhoea less than 63 days | | | | | | | |
| Subtotal (95%CI) | 0 | | 0 | | | 0.0 | Not Estimable |
| Chi-square 0.00 (df=0) Z=0.00 | | | | | | | |
| Total (95%CI) | 203 | | 216 | | | 100.0 | 5.200 [4.976,5.424] |
| Chi-square 0.00 (df=0) Z=45.49 | | | | | | | |

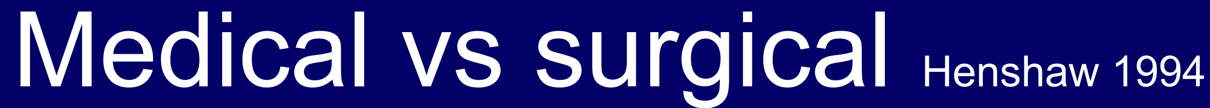
-10 -5 0 5 10

Favours treatment Favours control

# Medical vs surgical Say 2003

- Small sample sizes
- Medical:
  - Longer duration of bleeding
  - Single regimes less effective than vacuum

- acceptability



# Medical vs surgical Henshaw 1994

- n = 363, partially randomised
- < 63 days
- Mifepristone 600 mg/gemeprost 1 mg/ 48 h
- vs
- Vacuum aspiration

| | Medical n = 172 | Vacuum aspiration n = 191 | 95% CI for difference between proportions |
|---|---|---|---|
| Complete abortion | 94.2% | 97.9% | -0.003 to 0.078 |
| Minor complications within | 11.0% | 15.7% | -0.116 to 0.023 |
| Requiring uterine curettage | 5.8% | 2.1% | |

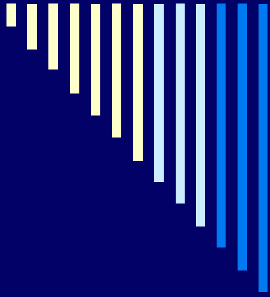
# International Conference on Population and Development

In circumstances where abortion is not against the law… to ensure that abortion is safe and accessible."

*(Key actions ICPD+5, paragraph 63)*

"In all cases, women should have access to quality services for the management of complications arising from abortion."

*(Key actions ICPD+5, paragraph 63)*



- F1. Promote policy dialogue on unsafe abortion, and provide guidance to countries on how to develop, implement and evaluate programmes to prevent and address unsafe abortion.

- F2. Promote the effective management of abortion complications and postabortion care, including its integration within other reproductive health services.

- F3. Develop and promote interventions to improve access to quality care in circumstances where abortion is not against the law, with special emphasis on underserved populations.

UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP)

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