

Review: levonorgestrel and mifepristone are effective emergency methods for preventing pregnancy after unprotected intercourse

Cheng L, Gülmezoglu AM, Van Oel CJ, *et al.* Interventions for emergency contraception. *Cochrane Database Syst Rev* 2004;(3):CD001324.

Q Which emergency contraceptive methods are the most effective for preventing pregnancy after unprotected intercourse?

METHODS

 **Data sources:** *Cochrane Library* (Issue 1, 2003), *Popline*, *Medline* (1966 to April 2003), *EMBASE/Excerpta Medica* (1980–2003), *CINAHL* (1982–2003), *Biological abstracts database* (1985 to April 2003), *Chinese Biological Medical discs* (1992 to April 2003), *World Health Organization resources* (July 2003), *Emergency Contraception World Wide Web server* (April 2003), contacts with experts and pharmaceutical companies, and bibliographies of relevant articles.

 **Study selection and assessment:** randomised controlled trials (RCTs) and controlled clinical trials in any language that compared different emergency contraceptive methods or compared 1 method with expectant management or placebo; reported clinical outcomes; and examined women with regular or irregular menses seeking emergency contraception after unprotected intercourse. Exclusion criteria: studies of women attending clinics for once-a-month contraception in the form of luteal phase contraceptives or for menstrual regulation; similar interventions for regular post-coital contraception; comparisons of delivery systems other than a drug or intrauterine device; or loss to follow up >20%. Individual study quality was assessed based on randomisation and allocation concealment techniques, blinding, post-randomisation exclusions, losses to follow up, and intention to treat analyses.

 **Outcome:** pregnancy rate.

MAIN RESULTS

48 trials (33 110 women) met the selection criteria. Selected results are reported in the table. Pregnancy rates did not differ for a single dose of levonorgestrel, 1.5 mg, and 2 doses of 0.75 mg given 12 hours apart (2 trials, n = 3830); levonorgestrel, 1.5 mg, and mifepristone, 25–50 mg (8 trials, n = 2292); levonorgestrel, 1.5 mg, and mifepristone, ≤10 mg (7 trials, n = 6118); mifepristone, >50 mg, and 25–50 mg (5 trials, n = 2464); mifepristone, >50 mg, and ≤10 mg (2 trials, n = 1384); or danazol and the Yuzpe regimen (2 trials, n = 485).

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CONCLUSIONS

Levonorgestrel (which is as effective when used as a single dose of 1.5 mg or as 2 doses of 0.75 mg taken 12 h apart) and mifepristone, 25–50 mg, are effective emergency methods for preventing pregnancy after unprotected intercourse.

Commentary

The review by Cheng *et al* concludes that levonorgestrel or mifepristone are more effective and better tolerated than the traditionally used Yuzpe method. Mifepristone, however, remains controversial because of its identity as the “abortion” pill. It is also associated with delayed onset of menses. The thorough search of specialised databases, inclusion of studies in any language, consultation with experts, and sound methodological quality of most of the individual studies gives strength to the authors’ conclusions. A levonorgestrel regimen of 1.5 mg, as a single or divided dose, is the treatment of choice when available, although it may be more costly than the Yuzpe method.

The clinical safety and effectiveness of emergency contraception is well established. The challenge for clinicians is to promote the appropriate use of this underused contraceptive option. Few women report having ever used emergency contraception.^{1 2} It is likely that wider use could prevent many unwanted pregnancies and prevent abortions. Some countries are initiating changes that will make emergency contraception available through pharmacists without prescription. Over-the-counter sales will dramatically increase access and should be supported by healthcare professionals. Clinicians might also consider providing women or couples with an advance dose of emergency contraception for use after unprotected intercourse. Although this approach is controversial, adolescents provided with an advance dose do not have more unprotected sex and actually increase their use of condoms or oral contraceptives.³

The take home message is that emergency contraception is safe and effective, and access to this important contraceptive option should be expanded.

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- 1 Kaiser Foundation. Women’s health care providers’ experiences with emergency contraception. June 2003. <http://www.kff.org/womenshealth/3343-index.cfm>. (accessed 19 October 2004).
- 2 Babae G, Jamali B, Ali MM. *J Sex Marital Ther* 2003;**29**:269–75.
- 3 McLean R. *Perspect Sex Reprod Health* 2004;**36**:134.

Pregnancy rates for various emergency contraceptive methods after unprotected intercourse*

Comparisons	Number of trials (n)	Weighted event rates	RRR (95% CI)	NNT (CI)
Intrauterine device v expectant management	1 (300)	2% v 22%	91% (74 to 97)	5 (4 to 9)
Levonorgestrel v the Yuzpe regimen	2 (2789)	1.3% v 3.3%	49% (17 to 69)	50 (34 to ∞)
Mifepristone v the Yuzpe regimen	3 (2144)	0.45% v 2.5%	86% (59 to 95)	50 (34 to 100)
Mifepristone, 25–50 mg v ≤10 mg	10 (8762)	0.73% v 1.7%	38% (12 to 57)	100 (100 to ∞)
Mifepristone v anoradrin	3 (439)	0.09% v 4.1%	80% (8 to 96)	25 (15 to 100)
Mifepristone v danazol	2 (629)	0.47% v 4.5%	90% (45 to 98)	25 (15 to 50)

*Abbreviations defined in glossary; weighted event rates, RRR, NNT, and CI calculated from data in article using a fixed effects model.