Appendix S1

Search strategy for Medline & Embase (Multifile) via OVID Search date 4 March 2019

#	Searches
1	exp abortion/ use emczd
2	•
3	exp pregnancy termination/ use emczd
	exp Abortion, Induced/ use ppez
4	Abortion Applicants/ use ppez
5	exp Abortion, Spontaneous/ use ppez
6	exp Abortion, Criminal/ use ppez
7	Aborted fetus/ use ppez
8	fetus death/ use emczd
9	abortion.mp.
10	(abort\$ or postabort\$ or preabort\$).tw.
11	((f?etal\$ or f?etus\$ or gestat\$ or midtrimester\$ or pregnan\$ or prenatal\$ or pre
	or trimester\$) and terminat\$).tw.
12	((f?etal\$ or f?etus\$) adj loss\$).tw.
13	((gestat\$ or midtrimester\$ or pregnan\$ or prenatal\$ or pre natal\$ or trimester\$) adj3
	loss\$).tw.
14	(((elective\$ or threaten\$ or voluntar\$) adj3 interrupt\$) and pregnan\$).tw.
15	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14
16	exp Curettage/ use ppez
17	"dilation and evacuation"/ use emczd
18	"dilatation and curettage"/ use emczd
19	vacuum aspiration/ use emczd
20	((dilat\$ or vacuum\$ or suction\$ or surgical) adj5 (evac\$ or extract\$ or curet\$ or
	aspirat\$)).tw.
21	curettage\$.tw.
22	16 or 17 or 18 or 19 or 20 or 21
23	Mifepristone/ use ppez
24	mifepristone/ use emczd
25	(mifepriston\$ or mifeprex\$ or mifegyn\$ or ru-486\$ or ru-486\$ or ru-38486\$ or
	ru38486\$).mp.
26	Misoprostol/ use ppez
27	misoprostol/ use emczd
28	(misoprostol\$ or cytotec\$ or arthrotec\$ or oxaprost\$ or cyprostol\$ or mibetec\$ or
	prostokos\$ or misotrol\$).mp.
29	(medica\$ adj5 evac\$).tw.
30	23 or 24 or 25 or 26 or 27 or 28 or 29
31	15 and 22 and 30
32	(surg\$ adj6 (abortion\$ or termination\$)).tw.
33	(medica\$ adj6 (abortion\$ or termination\$)).tw.
34	32 and 33
35	31 or 34
36	limit 35 to english language
37	remove duplicates from 36 [general exclusions filter applied]
	11 3

Search strategy for the Cochrane Library (CDSR and CENTRAL) via Wiley Online Search date 4 March 2019

#	Searches
#1	MeSH descriptor: [Abortion, Induced] explode all trees
#2	MeSH descriptor: [Abortion Applicants] explode all trees
#3	MeSH descriptor: [Abortion, Spontaneous] explode all trees
#4	MeSH descriptor: [Abortion, Criminal] explode all trees
#5	MeSH descriptor: [Aborted Fetus] explode all trees
#6	"abortion":ti,ab,kw (Word variations have been searched)
#7	(abort* or postabort* or preabort*):ti,ab,kw (Word variations have been searched)
#8	((fetal* or fetus* or foetal* or foetus* or gestat* or midtrimester* or pregnan* or
	prenatal* or pre natal* or trimester*) and terminat*):ti,ab,kw (Word variations have
	been searched)
#9	((fetal* or fetus* or foetal* or foetus*) next loss*):ti,ab,kw (Word variations have
	been searched)
#10	((gestat* or midtrimester* or pregnan* or prenatal* or pre natal* or trimester*) near/3
	loss*):ti,ab,kw (Word variations have been searched)
#11	(((elective* or threaten* or voluntar*) near/3 interrupt*) and pregnan*):ti,ab,kw
	(Word variations have been searched)
#12	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11
#13	MeSH descriptor: [Curettage] explode all trees
#14	((dilat* or vacuum* or suction* or surgical) near/5 (evac* or extract* or curet* or
	aspirat*)):ti,ab,kw (Word variations have been searched)
#15	curettage:ti,ab,kw (Word variations have been searched)
#16	#13 or #14 or #15
#17	MeSH descriptor: [Abortifacient Agents] explode all trees
#18	abortifacient*:ti,ab,kw (Word variations have been searched)
#19	MeSH descriptor: [Mifepristone] explode all trees
#20	(mifepriston* or mifeprex* or mifegyn* or ru-486* or ru-486* or ru-38486* or
	ru38486*):ti,ab,kw (Word variations have been searched)
#21	MeSH descriptor: [Misoprostol] explode all trees
#22	(misoprostol* or cytotec* or arthrotec* or oxaprost* or cyprostol* or mibetec* or
	prostokos* or misotrol*):ti,ab,kw (Word variations have been searched)
#23	(medica* near/5 evac*):ti,ab,kw (Word variations have been searched)
#24	#17 or #18 or #19 or #20 or #21 or #22 or #23
#25	(surg* near/6 (abortion* or termination*)):ti,ab,kw (Word variations have been
1107	searched)
#26	(medica* near/6 (abortion* or termination*)):ti,ab,kw (Word variations have been
407	searched)
#27	#25 and #26
#28	#12 and #16 and #24
#29	#27 or #28

Appendix S2

Excluded studies

Study	Reason for Exclusion
Ashok, P. W., Hamoda, H., Flett, G. M. M., Kidd, A., Fitzmaurice, A., Templeton, A., Patient preference in a randomized study comparing medical and surgical abortion at 10-13 weeks gestation, Contraception, 71, 143-148, 2005	Population not in PICO (gestational age 10-13 weeks)
Ashok, P. W., Kidd, A., Flett, G. M. M., Fitzmaurice, A., Graham, W., Templeton, A., A randomized comparison of medical abortion and surgical vacuum aspiration at 10-13 weeks gestation, Human Reproduction, 17, 92-98, 2002	Population not in PICO (gestational age 10-13 weeks)
Autry, A. M., Hayes, E. C., Jacobson, G. F., Kirby, R. S., A comparison of medical induction and dilation and evacuation for second-trimester abortion, American Journal of Obstetrics and Gynecology, 187, 393-397, 2002	Interventions/comparisons not in PICO (medical abortion not undertaken with mifepristone and misoprostol)
Baldwin, M., Basnett, I., Dangol, D. S., Karki, C., Castleman, L., Edelman, A. B., Introduction of second trimester medical and surgical abortion in Nepal, International Journal of Gynecology and Obstetrics, 3), S290, 2012	Not RCT. Published as abstract only, not enough information available to ascertain relevance.
Costescu, D., Guilbert, E., No. 360-Induced Abortion: Surgical Abortion and Second Trimester Medical Methods, Journal of Obstetrics and Gynaecology Canada, 40, 750- 783, 2018	Systematic review, included studies checked for relevance.
Cowett, A. A., Golub, R. M., Grobman, W. A., Costeffectiveness of dilation and evacuation versus the induction of labor for second-trimester pregnancy termination, American Journal of Obstetrics & Gynecology, 194, 768-73, 2006	Not a systematic review and no original data.
Debby, A, Golan, A, Sagiv, R, Sadan, O, Glezerman, M, Midtrimester abortion in patients with a previous uterine scar, European journal of obstetrics, gynecology, and reproductive biology, 109, 177-180, 2003	Not RCT; non-comparative study
Di Carlo, C., Savoia, F., Ferrara, C., Sglavo, G., Tommaselli, G. A., Giampaolino, P., Cagnacci, A., Nappi, C., "In patient" medical abortion versus surgical abortion: patient's satisfaction, Gynecological Endocrinology, 32, 650-654, 2016	Population not in PICO (gestational age < 7 weeks)
Grossman, D., Blanchard, K., Blumenthal, P., Complications after Second Trimester Surgical and Medical Abortion, Reproductive Health Matters, 16, 173-182, 2008	Systematic review; checked for relevant studies, which are included separately in the current review
Lohr, Patricia A, Hayes, Jennifer L, Gemzell-Danielsson, Kristina, Surgical versus medical methods for second trimester induced abortion, Cochrane Database of Systematic Reviews, 2008	Systematic review; checked for relevant studies, which are included separately in the current review

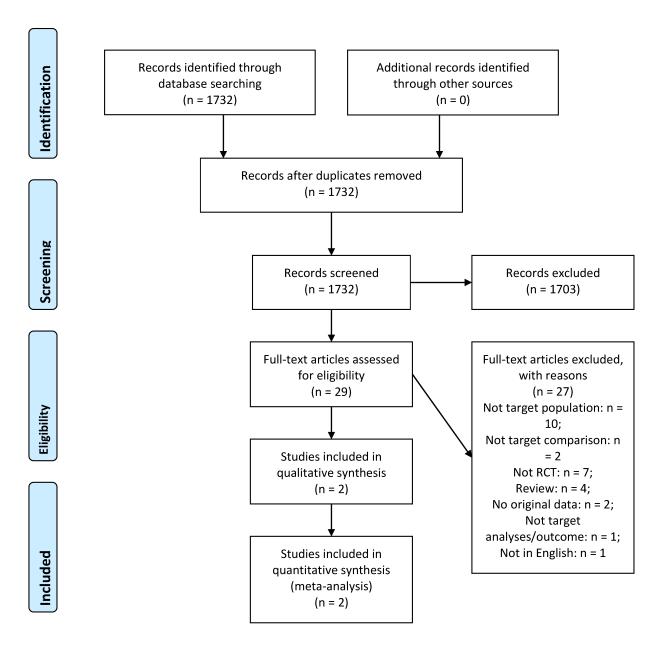
Study	Reason for Exclusion
Lowenstein, L., Deutcsh, M., Gruberg, R., Solt, I., Yagil, Y., Nevo, O., Bloch, M., Psychological distress symptoms in women undergoing medical vs. surgical termination of pregnancy, General Hospital Psychiatry, 28, 43-47, 2006	Population not in PICO (gestational age < 64 days)
Lyus, R., Comparing medical versus surgical termination of pregnancy at 13-20 weeks of gestation: A randomised controlled trial, BJOG: An International Journal of Obstetrics and Gynaecology, 118, 1148-1149, 2011	Letter to the editor about Kelly et al., 2010 (and no other relevant data)
Medarametla, V., A comparative study of vaginal misoprostol versus trans-cervical foley catheter insertion along with vaginal misoprostol in termination of midtrimester pregnancies, European Journal of Contraception and Reproductive Health Care, 21, 57-58, 2016	Does not appear to be an RCT. Published as abstract only, not enough information available to ascertain relevance, although comparison is probably not in PICO
Moreau, C., Trussell, J., Desfreres, J., Bajos, N., Medical vs. surgical abortion: The importance of women's choice, Contraception, 84, 224-229, 2011	Population not in PICO (gestational age < 8 weeks)
Moreau, C., Trussell, J., Desfreres, J., Bajos, N., Medical versus surgical abortion: The importance of women's choice, Contraception, 82 (2), 205, 2010	Not an RCT. Published as an abstract only; not enough information to ascertain relevance, but population probably not in PICO as appears to be a report of the same data as reported by Moreau 2011
Rademakers, J., Koster, E., Jansen-Van Hees, A. C. V., Willems, F., Medical abortion as an alternative to vacuum aspiration: First experiences with the 'abortion pill' in The Netherlands, European Journal of Contraception and Reproductive Health Care, 6, 185-191, 2001	Population not in PICO (gestational age < 50 days)
Robson, S. C., Kelly, T., Howel, D., Deverill, M., Hewison, J., Lie, M. L. S., Stamp, E., Armstrong, N., May, C. R., Randomised preference trial of medical versus surgical termination of pregnancy less than 14 weeks' gestation (TOPS), Health Technology Assessment, 13, 1-124, 2009	Includes population up to gestational age of 14 weeks; no subgroup analyses for subsection of population in PICO (i.e., gestational age 13- 14 weeks)
Rodriguez, M. I., Mendoza, W. S., Guerra-Palacio, C., Guzman, N. A., Tolosa, J. E., Medical abortion and manual vacuum aspiration for legal abortion protect women's health and reduce costs to the health system: Findings from Colombia, Reproductive Health Matters, Part S1. 22, 125-133, 2015	Population not in PICO (first trimester only); also appears that medical abortion used misoprostol only and not in combination with mifepristone
Say, Lale, Brahmi, Dalia, Kulier, Regina, Campana, Aldo, Gülmezoglu, A Metin, Medical versus surgical methods for first trimester termination of pregnancy, Cochrane Database of Systematic Reviews, 2002	Systematic review; included studies checked for relevance

Study	Reason for Exclusion
Slade, P., Heke, S., Fletcher, J., Stewart, P., Termination of pregnancy: Patients' perceptions of care, Journal of Family Planning and Reproductive Health, 27, 72-77, 2001	Not RCT; population not in PICO (first trimester abortions)
Sonalkar, S., Ogden, S. N., Tran, L. K., Chen, A. Y., Comparison of complications associated with induction by misoprostol versus dilation and evacuation for second-trimester abortion, International Journal of Gynecology and Obstetrics, 138, 272-275, 2017	Comparison not in PICO (medical abortion performed with misoprostol alone, and no mifepristone)
Vijayasree, M., A comparative study of vaginal misoprostol versus trans - Cervical foley catheter insertion along with vaginal misoprostol in termination of mid-trimester pregnancies, Journal of Obstetrics and Gynaecology Research, 43, 23, 2017	Does not appear to be an RCT. Published as abstract only, not enough information available to ascertain relevance, although comparison is probably not in PICO
Virgo, K. S., Carr, T. R., Hile, A., Virgo, J. M., Sullivan, G. M., Kaikati, J. G., Medical versus surgical abortion: A survey of knowledge and attitudes among abortion clinic patients, Women's Health Issues, 9, 143-154, 1999	Analyses/outcomes not in PICO (survey completed while waiting for the abortion appointment)
Wadhera, S., Millar, W. J., Second trimester abortions: trends and medical complications, Health reports / Statistics Canada, Canadian Centre for Health Information = Rapports sur la sante / Statistique Canada, Centre canadien d'information sur la sante, 6, 441-454, 1994	Not RCT. Unclear if any medical abortions performed with mifepristone and misoprostol; comparisons not in PICO.
Xia, W., She, S., Lam, T. H., Medical versus surgical abortion methods for pregnancy in China: A cost-minimization analysis, Gynecologic and Obstetric Investigation, 72, 257-263, 2011	Population not in PICO (gestational age up to 49 days)
Yilmaz, N., Kanat-Pektas, M., Kilic, S., Gulerman, C., Medical or surgical abortion and psychiatric outcomes, Journal of Maternal-Fetal and Neonatal Medicine, 23, 541- 544, 2010	Population not in PICO (gestational age up to 12 weeks)
Zou, Y, Liang, Y, Wu, Sc, Li, Yp, Yan, L, Mei, L, Zhang, Jq, Tong, L, Study on meta analysis regarding the acceptability of medical abortion compared with surgical abortion (Provisional abstract), Chinese Journal of Epidemiology, 27, 68-71, 2006	Full text not in English

APPENDIX S3



PRISMA 2009 Flow Diagram



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit $\underline{www.prisma\text{-}statement.org}.$

APPENDIX S4

Evidence tables of included studies:

Study details	Participants	Interventions	Outcomes and Results	Comments
Full citation	Sample size	Medical abortion (Medical):	Critical outcomes:	Limitations
Grimes, D.A.,	N = 18 randomised (47 women	Day 1: Oral mifepristone 200 mg. Day	Incomplete abortion with the	
Smith,M.S.,	eligible, but 29 declined participation	3 vaginal misoprostol 800 mcg (four	need for surgical intervention:	Quality assessment: Risk of bias
Witham, A.D.,	as they had a clear preference for	tablets); then misoprostol 400 mcg orally	Medical: 4/9; Surgical: 1/9	assessed using Cochrane risk of
Mifepristone and misoprostol versus	abortion method. These 29 patients differed [unclear of this is statistically	every 3 hours (max 4 doses) until abortion occurred.	Hemorrhage requiring	bias tool
dilation and	significantly] from those who were	Patients also received prophylactic		Random sequence generation:
evacuation for	randomised on the following	prochlorperazine and diphenoxylate	loss: Not directly reported, but	Low risk; computer-generated
	characteristics: They were older,	(against vomiting and diarrhoea), a	the authors report that no	list; the person responsible for
a pilot randomised	more likely to be white, fewer	continuous infusion of morphine using	serious adverse events	generating the randomisation list
controlled trial, BJOG:	previous pregnancies, and lower	a patient-controlled system, and	occurred.	did not take part in enrolment
An International	gestational age; only 1 of 11 women	prophylactic oral		
Journal of Obstetrics	with confirmed fetal abnormalities	oxycycline. Placental removal was	Patient acceptability (Scale	Allocation concealment: Low risk;
and Gynaecology,	consented to participate, and an	undertaken if the placenta failed to pass	from 1 [very satisfied] to 5	sequentially numbered opaque
111, 148-153, 2004	additional 3 women with fetal death	spontaneously within 2 hours of the fetus.	[very dissatisfied]); at	sealed envelopes; the person
Ref Id 117411	did not consent to participate)		discharge; median (IQR):	responsible for sealing the
Ref Id 11/411	Characteristics	versus	Medical (n = 9): 1 (1-1); Surgical (n = 9): 1 (1-	envelopes did not take part in enrolment
Country/ies where	Medical : N = 9; Median age (IQR) =	Surgical abortion (Surgical):	1). Please note, this	emonnem
the study was	25 (22-27) years; race white/black: N	Day 1: Multiple laminaria were placed in	outcome appears to be a	Blinding of participants and
carried out	= 1/8; median (IQR) gravidity: 3 (3-	the cervix under paracervical anaesthesia	mix of acceptability and	personnel: Unblinded; low risk as
USA	4); median (IQR) parity: 2 (1-	with 20 cc of 0.25% bupivacaine. Day 2-3	satisfaction	all reported outcomes are either
	2); median (IQR) prior abortions: 1 (0-	(Day 2 until July 2002, Day 3 thereafter): D		objective outcomes or only possible
Study type	1); median (IQR) gestational age in	& E performed under light general	Important outcomes:	by patient knowing what they went
Randomised	completed weeks: 18 (17-18).	anaesthesia without intubation was used	Abortion completed by	through (patient
controlled trial		for each D & E. Patients also received	intended method: Medical: 5/9;	satisfaction/acceptability).
Alm of the caterials	Surgical: N = 9; Median age (IQR) =	prophylactic oral doxycycline.	Surgical: 8/9	Diadia a di coto con
Aim of the study	26 (24-28) years; race white/black: N		I like vine a line is on a fine also eliment	Blinding of outcome assessment: Unblinded; low risk
"To test the feasibility of mounting a	= 2/7; median (IQR) gravidity: 3 (3-5); median (IQR) parity: 2 (1-		Uterine injury (including rupture): Not directly reported.	as all reported outcomes are either
	2); median (IQR) panty. 2 (1- 2); median (IQR) prior abortions: 1 (0-		but the authors report that no	objective outcomes or only possible
trial comparing	2); median (IQR) gestational age in		serious adverse events	by patient knowing what they went
mifepristone-	completed weeks: 18 (16-19). One		occurred.	through (patient
misoprostol versus	patient went into labour after			satisfaction/acceptability).
dilation and	placement of laminaria and aborted		Cervical injury requiring	""
evacuation (D&E) for	(uneventfullly) without receiving D &		repair: Not directly reported,	Attrition: Low risk; ITT analyses
midtrimester abortion."	E; this patient is analysed in this		but the authors report that no	done for all outcomes.

Study details	Participants	Interventions	Outcomes and Results	Comments
(p. 148) Study dates January 2002-January 2003 Source of funding Not information reported	group. Inclusion criteria Age ≥ 18 years; English speaking; gestational age of 13.9–19.9 weeks (i.e., fetal biparietal diametre of 26– 46 mm on ultrasound; also including patients who had experienced a fetal death or had a fetus with congenital anomalies or chromosomal defect. Exclusion criteria Prior caesarean delivery, prior myomectomy; medical conditions listed in package labelling as contraindications to use of mifepristone or misoprostol (e.g., chronic renal failure, asthma); transportation difficulties relating to the abortion visits; patients unwilling to return or to be contacted by telephone or letter two weeks later in follow up.		serious adverse events occurred. Infection reported within 1 month of abortion: Not directly reported, but the authors report that in Medical 3/9 and in Surgical 0/9 had fever (>38° C).	Selective reporting: Low risk Other bias: None reported Other information Study stopped early due to slow recruitment; had planned to recruit 60 women. "Patients receiving care in our abortion clinic are predominantly women of limited financial means, those with medical or social problems, and those with abnormal fetuses." (p. 149)
A randomised controlled trial, BJOG: An International Journal of Obstetrics and Gynaecology,	= 14.7 (1.6) weeks; primapara: N = 24; previous TOP: N = 14; previous CS [caesarian?]: N = 3. N = 8 did not receive mToP as they continued with their pregnancy. Surgical: N = 62; Mean age (SD) = 23.5 (5.8) years; mean gestation (SD) = 15.1 (1.9) weeks; primapara: N = 29; previous TOP: N = 21; previous	Medical abortion (Medical): Day 1: Oral mifepristone 200 mg orally. 36–48 hours later at 0800 hours: Vaginal misoprostol 800 mcg, followed by vaginal or oral 400 mcg misoprostol (depending on level of vaginal bleeding) every 3 hours (max 4 doses). If by 2400 hours the abortion had not occurred, 200 mg oral mifepristone administered, followed by 1 mg vaginal gemeprost 3-hourly from 0800 hours (max 5 doses). Medical abortion was considered to have failed if still no abortion by the following morning at 0800 hours. Surgical abortion was then undertaken. If the placenta was not passed within 4 hours of expulsion of the fetus despite a	Critical outcomes: Incomplete abortion with the need for surgical intervention: Medical: 5/60; Surgical: 1/62 Hemorrhage requiring transfusion or ≥ 500ml of blood loss: Medical: 1/60; Surgical: 5/62 Patient acceptability (as measured by "Would choose the same method again"); at 2 weeks: Medical: 16/30; Surgical: 26/26 [it should possibly be 36/36 as N = 36 analysed in this group. However, Table 2 lists N = 26]	Cuality assessment: Risk of bias assessed using Cochrane risk of bias tool Random sequence generation: Low risk; computergenerated list; the person responsible for generating the randomisation list did not take part in enrolment Allocation concealment: Low risk; sequentially numbered opaque sealed envelopes; the person responsible for sealing the envelopes did not take part in

United Kingdom Pregnant women requesting and accepted for abortion under clause C Inclusion criteria Pregnant women requesting and accepted for abortion under clause C study type received periabortion antibiotic prophylaxis with doxycycline 100 mg orally twice daily, accepted for abortion under clause C starting on the day prior to abortion. Medical: 16/3	Blinding of participants and personnel: Unblinded; low risk as all reported outcomes are either
Aim of the study "To compare the psychological impact, acceptability and clinical effectiveness of medical versus surgical termination of pregnancy (TOP) at 13–20 weeks of gestation." (p. 1512) Study dates May 2000 to February 2004 Source of funding University of Newcastle upon Tyne Embryology Act (1990) amendment of the Abortion Act (1967), gestation Act (1967), gest	ld possibly be 0/36 halysed in this large of in this lar

Study details	Participants	Interventions	Outcomes and Results	Comments
		The women also received periabortion antibiotic prophylaxis with doxycycline 100 mg orally twice daily, starting on the day prior to abortion, and metronidazole 1 g rectally at the time of abortion.	Uterine injury (including rupture): Medical: 0/60; Surgical: 0/62 Cervical injury requiring repair: Medical: 0/60; Surgical: 1/62	
			Infection reported within 1 month of abortion: Not directly reported, but infection included in the definition of complications in the methods section, so presumably it was looked for, just not observed.	