

Supplementary Materials

Table S1. The search methods for used databases.

Database	Number of retrieved studies	Search strategy
PubMed	173	(Intrauterine Devices[Mesh] OR intrauterine devic* OR intrauterine system* OR intrauterine contracept* OR IUD OR IUS OR Mirena OR Kyleena OR Skyla OR Jaydess OR Liletta OR Levosert) AND (Levonorgestrel[Mesh] OR levonorgestrel* OR norgestrel*) AND (Parity[Mesh] OR nullipar*) AND ("1990/01/01"[PDAT] : "2020/03/27"[PDAT])
Scopus	429	(TITLE-ABS-KEY (intrauterine AND devic* OR intrauterine AND system* OR intrauterine AND contracept* OR iud OR ius OR mirena OR kyleena OR skyla OR jaydess OR liletta OR levosert) AND (levonorgestrel* OR norgestrel*) AND (nullipar*)) AND (LIMIT-TO (PUBYEAR,2020) OR LIMIT-TO (PUBYEAR,2019) OR LIMIT-TO (PUBYEAR,2018) OR LIMIT-TO (PUBYEAR,2017) OR LIMIT-TO (PUBYEAR,2016) OR LIMIT-TO (PUBYEAR,2015) OR LIMIT-TO (PUBYEAR,2014) OR LIMIT-TO (PUBYEAR,2013) OR LIMIT-TO (PUBYEAR,2012) OR LIMIT-TO (PUBYEAR,2011) OR LIMIT-TO (PUBYEAR,2010) OR LIMIT-TO (PUBYEAR,2009) OR LIMIT-TO (PUBYEAR,2008) OR LIMIT-TO (PUBYEAR,2007) OR LIMIT-TO (PUBYEAR,2006) OR LIMIT-TO (PUBYEAR,2005) OR LIMIT-TO (PUBYEAR,2004) OR LIMIT-TO (PUBYEAR,2003) OR LIMIT-TO (PUBYEAR,2002) OR LIMIT-TO (PUBYEAR,2001) OR LIMIT-TO (PUBYEAR,2000) OR LIMIT-TO (PUBYEAR,1999) OR LIMIT-TO (PUBYEAR,1998) OR LIMIT-TO (PUBYEAR,1997) OR LIMIT-TO (PUBYEAR,1996) OR LIMIT-TO (PUBYEAR,1995) OR LIMIT-TO (PUBYEAR,1994) OR LIMIT-TO (PUBYEAR,1993) OR LIMIT-TO (PUBYEAR,1992) OR LIMIT-TO (PUBYEAR,1991) OR LIMIT-TO (PUBYEAR,1990)) AND (LIMIT-TO (DOCTYPE,"ar"))
Embase	155	(intrauterine AND devic* OR (intrauterine AND system*) OR (intrauterine AND contracept*) OR 'iud'/exp OR iud OR ius OR 'mirena'/exp OR mirena OR 'kyleena'/exp OR kyleena OR 'skyla'/exp OR skyla OR 'jaydess'/exp OR jaydess OR 'liletta'/exp OR liletta OR 'levosert'/exp OR levosert) AND (levonorgestrel* OR norgestrel*) AND nullipar* AND (1991:py OR 1992:py OR 1993:py OR 1995:py OR 1996:py OR 1997:py OR 1998:py OR 1999:py OR 2001:py OR 2002:py OR 2003:py OR 2004:py OR 2005:py OR 2006:py OR 2007:py OR 2008:py OR 2009:py OR 2010:py OR 2011:py OR 2012:py OR 2013:py OR 2014:py OR 2015:py OR 2016:py OR 2017:py OR 2018:py OR 2019:py OR 2020:py) AND ('article'/it OR 'article in press'/it)
The Cochrane Central Register of Controlled Trials (CENTRAL)	59	#1 Intrauterine Devices[Mesh] #2 intrauterine device OR intrauterine system OR intrauterine contraception OR intrauterine contraceptive OR intrauterine contraceptives OR IUD OR IUS OR Mirena OR Kyleena OR Skyla OR Jaydess OR Liletta OR Levosert #3 Levonorgestrel[Mesh] #4 levonorgestrel OR norgestrel #5 Parity[Mesh] #6 nullipar* #7 (#1 OR #2) AND (#3 OR #4) AND (#5 OR #6) Filters: Trials; Year first publish range: 1990-2020

★ b) no description																								
2) <u>Was follow-up long enough for outcomes to occur</u> a) yes, at least 1 year ★ b) no	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★
3) <u>Adequacy of follow up of cohorts</u> a) complete follow up or subjects lost to follow up unlikely to introduce bias - small number lost - >70 % follow up/proper description provided ★ b) follow up rate <70 or no description of lost d) no statement	★	★	★	N/A* *	★	★	-	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	★	
Result	★★★ ★★	★★★ ★★★ ★★	★★★ ★★★ ★	★★★ ★★	★★★ ★★★ ★	★★★ ★★★ ★★	★★★ ★★	★★★ ★★★	★★★ ★★★ ★	★★★ ★★	★★★ ★★★	★★★ ★★★ ★	★★★ ★★★ ★	★★★ ★★★ ★★★	★★★ ★★★ ★★	★★★ ★★★	★★★ ★★★	★★★ ★★★ ★	★★★ ★★★ ★	★★★ ★★★ ★	★★ ★ ★★ ★ ★★	★★ ★ ★★ ★ ★★	★★ ★ ★★ ★ ★★	
Maximum number of stars	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★	★★★ ★★★ ★★★ ★ ★★ ★	★★★ ★★★ ★★★ ★ ★★ ★	★★★ ★★★ ★★★ ★ ★★ ★	
Risk of bias for the interpretation of results for nulliparous	high	low	low	high	low	low	moderate	high	low	moderate	high	low	low	low	low	high	high	low	high	high	low	low	high	

Note: This is a modified Newcastle - Ottawa Quality Assessment Scale [1]. It has been modified to assess the risk of bias in studies assessing performance of levonorgestrel-releasing intrauterine system as a contraceptive method in nulliparous women. Note: A study can be awarded one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be awarded for Comparability.

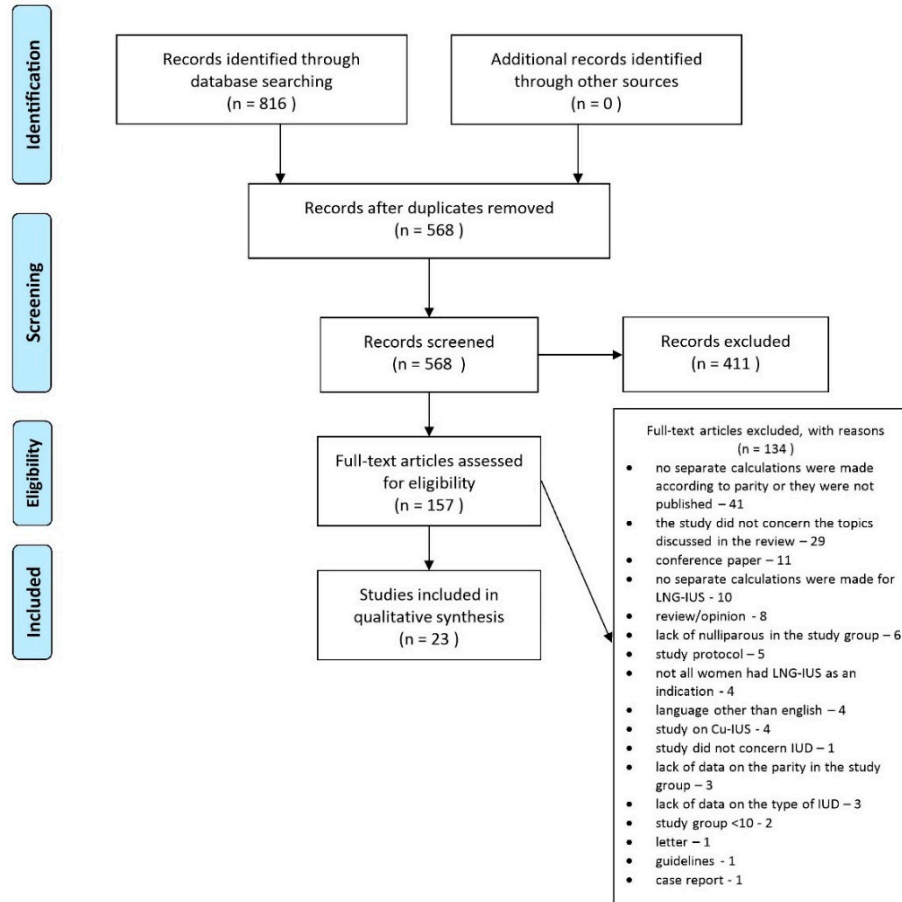
1. GA Wells, B.S., D O'Connell, J Peterson, V Welch, M Losos, P Tugwell. The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomised studies in meta-analyses. http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp state for the 20th April 2020.

*only the group of interest included in the study. **one point assessment. ***star was assigned if the self-report concerned subjective feelings, e.g. the level of satisfaction.

Supplementary File 2.



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 www.prisma-statement.org.

Figure S1. PRISMA 2009 Flow Diagram.