

## Online supplemental material appendix 1

## Search strategy

Prospero and ClinicalTrials.gov were screened for similar research in advance.

Preliminary representative search: February 4, 2022

Aim of this search: Addressing the initial part of the first review question

Database: Pubmed

Main search: February 25, 2022, identical rerun on September 08; 2022

Aim: further addressing the first review question as well as the review question (2) and (3)

Databases: Pubmed, Embase, Web of Science

Both searches were performed with the same search term.

The search employed a sensitive search strategy, using a combination of database-specific thesaurus terms and free-text terms in the title and abstract related to sports and exercise during pregnancy and postpartum:

((pregnan\* OR pregnancy outcome OR obstetric\* OR prenatal OR antenatal OR perinatal OR peripart\* OR postpart\* OR parturition\* OR childbirth OR postnatal) AND (athlete\* OR olympic\* OR runner OR marathon\* OR triathl\* OR competitive sport OR swimmer\* OR cyclist\* OR endurance training OR high intensity interval training\*)) NOT animals

## Embase 24.02.2022

No.	Query	Results
#4	#1 AND #2 NOT ([animals]/lim NOT [humans]/lim) NOT [conference abstract]/lim	1109
#3	#1 AND #2	2199
#2	'pregnancy'/exp OR 'childbirth'/exp OR 'pregnancy outcome'/exp OR pregnan*.ti,ab OR obstetric*.ti,ab OR prenatal.ti,ab OR antenatal.ti,ab OR perinatal.ti,ab OR peripart*.ti,ab OR postpart*.ti,ab OR parturition*.ti,ab OR childbirth*.ti,ab OR postnatal.ti,ab	1426785
#1	'athlete'/exp OR 'swimming'/exp OR 'cycling'/exp OR 'running'/exp OR 'endurance training'/exp OR 'high intensity interval training'/exp OR athlet*.ti,ab OR olympic*.ti,ab OR runner*.ti,ab OR marathon*.ti,ab OR triathl*.ti,ab OR 'competitive sport'*.ti,ab OR swimmer*.ti,ab OR cyclist*.ti,ab OR 'endurance training'*.ti,ab OR 'high intensity interval training'*.ti,ab	184833

## Embase 08.09.2022

No.	Query	Results
#12	#5 AND [01-02-2022]/sd NOT [09-09-2022]/sd	
#11	#10 NOT [conference abstract]/lim	
#10	#9 NOT ([animals]/lim NOT [humans]/lim)	
#9	#7 AND #8	
#8	#2 AND [01-02-2022]/sd	

#7	#1 AND [01-02-2022]/sd	
#6	#5 AND [01-02-2022]/sd	
#5	#4 NOT [conference abstract]/lim	
#4	#1 AND #2 NOT ([animals]/lim NOT [humans]/lim)	1628
#3	#1 AND #2	2324
#2	'pregnancy'/exp OR 'childbirth'/exp OR 'pregnancy outcome'/exp OR pregnan*:ti,ab OR obstetric*:ti,ab OR prenatal:ti,ab OR antenatal:ti,ab OR perinatal:ti,ab OR peripart*:ti,ab OR postpart*:ti,ab OR parturition*:ti,ab OR childbirth*:ti,ab OR postnatal:ti,ab	1467540
#1	'athlete'/exp OR 'swimming'/exp OR 'cycling'/exp OR 'running'/exp OR 'endurance training'/exp OR 'high intensity interval training'/exp OR athlet*:ti,ab OR olympic*:ti,ab OR runner*:ti,ab OR marathon*:ti,ab OR triathl*:ti,ab OR 'competitive sport*:ti,ab OR swimmer*:ti,ab OR cyclist*:ti,ab OR 'endurance training*:ti,ab OR 'high intensity interval training*:ti,ab	193198

## Pubmed 24.02.2022

No.	Query	Results
#4	#1 AND #2 NOT (animals[mh] NOT humans[mh])	813
#3	#1 AND #2	1536
#2	("Pregnancy"[Mesh] OR "Parturition"[Mesh] OR "Pregnancy Outcome"[Mesh] OR pregnan*[tiab] OR perinatal[tiab] OR prenatal[tiab] OR childbirth*[tiab] OR parturition*[tiab] OR obstetric*[tiab] OR peripart*[tiab] OR postpart*[tiab] OR postnatal[tiab] OR antenatal[tiab])	1262722
#1	("Athletes"[Mesh] OR "Swimming"[Mesh] OR "Running" [Mesh] OR "Endurance Training"[Mesh] OR "High-Intensity Interval Training"[Mesh] OR athlet*[tiab] OR olympic*[tiab] OR runner*[tiab] OR marathon*[tiab] OR triathl*[tiab] OR "competitive sport*[tiab] OR swimmer*[tiab] OR cyclist*[tiab] OR "endurance training*[tiab] OR "high intensity interval training*[tiab])	134978

## Pubmed 08.09.2022

No.	Query	Results
#5	(#4) AND (("2022/02"[Date - Entry] : "3000"[Date - Entry]))	32
#4	#3 NOT (animals[mh] NOT humans[mh])	842
#3	#1 AND #2	1573
#2	("Pregnancy"[Mesh] OR "Parturition"[Mesh] OR "Pregnancy Outcome"[Mesh] OR pregnan*[tiab] OR perinatal[tiab] OR prenatal[tiab] OR childbirth*[tiab] OR parturition*[tiab] OR obstetric*[tiab] OR peripart*[tiab] OR postpart*[tiab] OR postnatal[tiab] OR antenatal[tiab])	1289666
#1	("Athletes"[Mesh] OR "Swimming"[Mesh] OR "Running" [Mesh] OR "Endurance Training"[Mesh] OR "High-Intensity Interval Training"[Mesh] OR athlet*[tiab] OR olympic*[tiab] OR runner*[tiab] OR marathon*[tiab] OR triathl*[tiab] OR "competitive sport*[tiab] OR swimmer*[tiab] OR cyclist*[tiab] OR "endurance training*[tiab] OR "high intensity interval training*[tiab])	139787

## Web of Science 24.02.2022

No.	Query	Results
#3	#1 AND #2	669
#2	(pregnan* OR obstetric* OR prenatal OR antenatal OR perinatal OR peripart* OR postpart* OR parturition* OR childbirth* OR postnatal)	882006
#1	(athlete* OR olympic* OR runner* OR marathon* OR triathl* OR "competitive sport*" OR swimmer* OR cyclist* OR "endurance training*" OR "high intensity interval training*")	157464

## Web of Science 08.09.2022

No.	Query	Results
#4	#3 Timespan: 2022-02-02 to 2022-09-08	42
#3	#1 AND #2	708
#2	(pregnan* OR obstetric* OR prenatal OR antenatal OR perinatal OR peripart* OR postpart* OR parturition* OR childbirth* OR postnatal)	911577
#1	(athlete* OR olympic* OR runner* OR marathon* OR triathl* OR "competitive sport*" OR swimmer* OR cyclist* OR "endurance training*" OR "high intensity interval training*")	165320

No search strategies from other literature reviews were adapted or reused.

Additional articles were identified by reviewing the bibliographies of the studies found in the search, if applicable.

No additional information sources or search methods were used.

Included studies/ language:

Randomized clinical trials, cross-sectional studies, cohort studies, case series and case reports in the English language were included.

Organisation of search results:

EndNote version X9.2. (Clarivate Analytics, Philadelphia, PA, USA)

Deduplication:

EndNote version X9.2. (Clarivate Analytics, Philadelphia, PA, USA)

Further elimination of duplicates was performed by at least two raters (Nora Wieloch (NW) and Anneke Klostermann (AK)).

Selection process:

1. Independent screening of all studies for inclusion based on title and abstract of two raters (Nora Wieloch (NW) and Anneke Klostermann (AK)). In cases of uncertainty, the full-text articles were retrieved.

2. NW and NK evaluated the full-text articles for final inclusion.

Any discrepancies were resolved via discussion and/or by discussion with a third rater (Nina Kimmich (NK)).

Obtaining additional information:

One author was contacted by email to provide more detailed information on three outcome parameters (sinus problems, heavy bleeding, unhealthy child). No more raw data was available, so these parameters could not be specified more precisely.