

Appendix 1

Retrieval history

Search manager search

Search Name:

Date Run: 11/04/2024 10:15:19

Comment:

ID	Search	Hits
#1	MeSH descriptor: [Child] explode all trees	81699
#2	(Child):ti,ab,kw OR (Children):ti,ab,kw OR (Pediatrics):ti,ab,kw	189130
#3	#1 or #2	189130
#4	MeSH descriptor: [Central Venous Catheters] explode all trees	314
#5	(Central Venous Catheters):ti,ab,kw OR (Catheter, Central Venous):ti,ab,kw OR (Catheters, Central Venous):ti,ab,kw OR (Catheters, Central Venous):ti,ab,kw OR (Venous Catheters, Central):ti,ab,kw	3257
#6	(Central Venous Catheter):ti,ab,kw	2990
#7	#4 or #5 or #6	3257
#8	(Bloodstream Infection):ti,ab,kw OR (Bloodstream Infection):ti,ab,kw OR (Bloodstream Infections):ti,ab,kw OR (Infection, Bloodstream):ti,ab,kw	1462
#9	MeSH descriptor: [Risk Factors] explode all trees	38072
#10	(Risk Factors):ti,ab,kw OR (Factor, Risk):ti,ab,kw OR (Risk Factor):ti,ab,kw OR (Social Risk Factors):ti,ab,kw OR (Social Risk Factors Factor, Social Risk):ti,ab,kw	124229
#11	(Factors, Social Risk):ti,ab,kw OR (Risk Factors, Social):ti,ab,kw OR (Social Risk Factor):ti,ab,kw OR (Health Correlates):ti,ab,kw OR (Correlates, Health):ti,ab,kw	8642
#12	(Population at Risk):ti,ab,kw OR (Populations at Risk):ti,ab,kw OR (Risk Scores):ti,ab,kw OR (Risk Score):ti,ab,kw OR (Score, Risk):ti,ab,kw	98494
#13	(Risk Factor Scores):ti,ab,kw OR (Risk Factor Score):ti,ab,kw OR (Score, Risk Factor):ti,ab,kw	9592
#14	#9 or #10 or #11 or #12 or #13	182431
#15	#3 and #7 and #8 and #14	36

PubMed Search History						
Search number	Query	Sort By	Filters	Search Details	Results	Time
11	(((Child[MeSH Terms]) OR (((Child[Title/Abstract]) OR (Children[Title/Abstract])) OR (Pediatrics[Title/Abstract]))) AND ((Central Venous Catheters[MeSH Terms]) OR (((((Central Venous Catheters[Title/Abstract]) OR (Catheter, Central Venous[Title/Abstract])) OR (Catheters, Central Venous[Title/Abstract])) OR (Venous Catheter, Central[Title/Abstract])) OR (Venous Catheters, Central[Title/Abstract])) OR (Central Venous Catheter[Title/Abstract])))) AND (((Bloodstream Infection[Title/Abstract]) OR (Bloodstream Infection[Title/Abstract])) OR (Bloodstream Infections[Title/Abstract])) OR (Infection, Bloodstream[Title/Abstract])) AND ((Risk Factors[MeSH Terms]) OR (((((((((((((((Risk Factors[Title/Abstract]) OR (Factor, Risk[Title/Abstract])) OR (Risk Factor[Title/Abstract])) OR (Social Risk Factors[Title/Abstract])) OR (Factor, Social Risk[Title/Abstract])) OR (Factors, Social Risk[Title/Abstract])) OR (Risk Factor, Social[Title/Abstract])) OR (Risk Factors, Social[Title/Abstract])) OR (Social Risk Factor[Title/Abstract])) OR (Health Correlates[Title/Abstract])) OR (Correlates, Health[Title/Abstract])) OR (Population at Risk[Title/Abstract])) OR (Populations at Risk[Title/Abstract])) OR (Risk Scores[Title/Abstract])) OR (Risk Score[Title/Abstract])) OR (Score, Risk[Title/Abstract])) OR (Risk Factor Scores[Title/Abstract])) OR (Risk Factor Score[Title/Abstract])) OR (Score, Risk Factor[Title/Abstract]))))			("Child"[MeSH Terms] OR ("Child"[Title/Abstract] OR "Children"[Title/Abstract] OR "Pediatrics"[Title/Abstract])) AND ("central venous catheters"[MeSH Terms] OR ("central venous catheters"[Title/Abstract] OR "catheter central venous"[Title/Abstract] OR "catheters central venous"[Title/Abstract] OR "venous catheter central"[Title/Abstract] OR "venous catheters central"[Title/Abstract] OR "central venous catheter"[Title/Abstract])) AND ("bloodstream infection"[Title/Abstract] OR "bloodstream infection"[Title/Abstract] OR "bloodstream infections"[Title/Abstract] OR "infection bloodstream"[Title/Abstract]) AND ("risk factors"[MeSH Terms] OR ("risk factors"[Title/Abstract] OR "factor risk"[Title/Abstract] OR "risk factor"[Title/Abstract] OR "social risk factors"[Title/Abstract] OR ("Factor"[All Fields] OR "factor s"[All Fields] OR "Factors"[All Fields]) AND "social risk"[Title/Abstract] OR "factors social risk"[Title/Abstract] OR "risk factor social"[Title/Abstract] OR "risk factors social"[Title/Abstract] OR "social risk factor"[Title/Abstract] OR "health correlates"[Title/Abstract] OR "correlates health"[Title/Abstract] OR "population at risk"[Title/Abstract] OR "populations at risk"[Title/Abstract] OR "risk scores"[Title/Abstract] OR "risk score"[Title/Abstract] OR "score risk"[Title/Abstract] OR "risk factor scores"[Title/Abstract] OR "risk factor score"[Title/Abstract] OR "score risk factor"[Title/Abstract]))	211	20:42:29
10	(Risk Factors[MeSH Terms]) OR (((((((((((((((Risk Factors[Title/Abstract]) OR (Factor, Risk[Title/Abstract])) OR (Risk Factor[Title/Abstract])) OR (Social Risk Factors[Title/Abstract])) OR (Factor, Social Risk[Title/Abstract])) OR (Factors, Social Risk[Title/Abstract])) OR (Risk Factor, Social[Title/Abstract])) OR (Risk Factors, Social[Title/Abstract])) OR (Social Risk Factor[Title/Abstract])) OR (Health Correlates[Title/Abstract])) OR (Correlates, Health[Title/Abstract])) OR (Population at Risk[Title/Abstract])) OR (Populations at Risk[Title/Abstract])) OR (Risk Scores[Title/Abstract])) OR (Risk Score[Title/Abstract])) OR (Score, Risk[Title/Abstract])) OR (Risk Factor Scores[Title/Abstract])) OR (Risk Factor Score[Title/Abstract])) OR (Score, Risk Factor[Title/Abstract]))			"risk factors"[MeSH Terms] OR ("risk factors"[Title/Abstract] OR "factor risk"[Title/Abstract] OR "risk factor"[Title/Abstract] OR "social risk factors"[Title/Abstract] OR ("Factor"[All Fields] OR "factor s"[All Fields] OR "Factors"[All Fields]) AND "social risk"[Title/Abstract] OR "factors social risk"[Title/Abstract] OR "risk factor social"[Title/Abstract] OR "risk factors social"[Title/Abstract] OR "social risk factor"[Title/Abstract] OR "health correlates"[Title/Abstract] OR "correlates health"[Title/Abstract] OR "population at risk"[Title/Abstract] OR "populations at risk"[Title/Abstract] OR "risk scores"[Title/Abstract] OR "risk score"[Title/Abstract] OR "score risk"[Title/Abstract] OR "risk factor scores"[Title/Abstract] OR "risk factor score"[Title/Abstract] OR "score risk factor"[Title/Abstract])	1,454,042	20:40:27
9	((((((((((((((((Risk Factors[Title/Abstract]) OR (Factor, Risk[Title/Abstract])) OR (Risk Factor[Title/Abstract])) OR (Social Risk Factors[Title/Abstract])) OR (Factor, Social Risk[Title/Abstract])) OR (Factors, Social Risk[Title/Abstract])) OR (Risk Factor, Social[Title/Abstract])) OR (Risk Factors, Social[Title/Abstract])) OR (Social Risk Factor[Title/Abstract])) OR (Health Correlates[Title/Abstract])) OR (Correlates, Health[Title/Abstract])) OR (Population at Risk[Title/Abstract])) OR (Populations at Risk[Title/Abstract])) OR (Risk Scores[Title/Abstract])) OR (Risk Score[Title/Abstract])) OR (Score, Risk[Title/Abstract])) OR (Risk Factor Scores[Title/Abstract])) OR (Risk Factor Score[Title/Abstract])) OR (Score, Risk Factor[Title/Abstract]))			"risk factors"[Title/Abstract] OR "factor risk"[Title/Abstract] OR "risk factor"[Title/Abstract] OR "social risk factors"[Title/Abstract] OR ("Factor"[All Fields] OR "factor s"[All Fields] OR "Factors"[All Fields]) AND "social risk"[Title/Abstract] OR "factors social risk"[Title/Abstract] OR "risk factor social"[Title/Abstract] OR "risk factors social"[Title/Abstract] OR "social risk factor"[Title/Abstract] OR "health correlates"[Title/Abstract] OR "correlates health"[Title/Abstract] OR "population at risk"[Title/Abstract] OR "populations at risk"[Title/Abstract] OR "risk scores"[Title/Abstract] OR "risk score"[Title/Abstract] OR "score risk"[Title/Abstract] OR "risk factor scores"[Title/Abstract] OR "risk factor score"[Title/Abstract] OR "score risk factor"[Title/Abstract]	850,514	20:40:16
8	Risk Factors[MeSH Terms]			"risk factors"[MeSH Terms]	980,393	20:37:35
7	(((Bloodstream Infection[Title/Abstract]) OR (Bloodstream Infection[Title/Abstract])) OR (Bloodstream Infections[Title/Abstract]) OR (Infection, Bloodstream[Title/Abstract])			"bloodstream infection"[Title/Abstract] OR "bloodstream infection"[Title/Abstract] OR "bloodstream infections"[Title/Abstract] OR "infection bloodstream"[Title/Abstract]	14,830	20:37:18
6	(Central Venous Catheters[MeSH Terms]) OR (((((((Central Venous Catheters[Title/Abstract]) OR (Catheter, Central Venous[Title/Abstract])) OR (Catheters, Central Venous[Title/Abstract])) OR (Venous Catheter, Central[Title/Abstract])) OR (Venous Catheters, Central[Title/Abstract])) OR (Central Venous Catheter[Title/Abstract]))			"central venous catheters"[MeSH Terms] OR "central venous catheters"[Title/Abstract] OR "catheter central venous"[Title/Abstract] OR "catheters central venous"[Title/Abstract] OR "venous catheter central"[Title/Abstract] OR "venous catheters central"[Title/Abstract] OR "central venous catheter"[Title/Abstract]	15,332	20:36:29
5	(((Central Venous Catheters[Title/Abstract]) OR (Catheter, Central Venous[Title/Abstract])) OR (Catheters, Central Venous[Title/Abstract])) OR (Venous Catheter, Central[Title/Abstract]) OR (Venous Catheters, Central[Title/Abstract]) OR (Central Venous Catheter[Title/Abstract])			"central venous catheters"[Title/Abstract] OR "catheter central venous"[Title/Abstract] OR "catheters central venous"[Title/Abstract] OR "venous catheter central"[Title/Abstract] OR "venous catheters central"[Title/Abstract] OR "central venous catheter"[Title/Abstract]	13,799	20:36:20
4	Central Venous Catheters[MeSH Terms]			"central venous catheters"[MeSH Terms]	3,809	20:35:24
3	(Child[MeSH Terms]) OR (((Child[Title/Abstract]) OR (Children[Title/Abstract])) OR (Pediatrics[Title/Abstract]))			"Child"[MeSH Terms] OR "Child"[Title/Abstract] OR "Children"[Title/Abstract] OR "Pediatrics"[Title/Abstract]	2,693,894	20:35:06
2	((Child[Title/Abstract]) OR (Children[Title/Abstract])) OR (Pediatrics[Title/Abstract])			"Child"[Title/Abstract] OR "Children"[Title/Abstract] OR "Pediatrics"[Title/Abstract]	1,584,234	20:34:59
1	Child[MeSH Terms]			"child"[MeSH Terms]	2,197,666	20:34:09

Queries			
No.	Query	Results	Date
#40	#5 AND #13 AND #18 AND #39	397	#####
#39	#19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38	1877212	#####
#38	'score, risk factor':ab,ti	17	#####
#37	'risk factor score':ab,ti	298	#####
#36	'risk factor scores':ab,ti	147	#####
#35	'score, risk':ab,ti	1352	#####
#34	'risk score':ab,ti	49869	#####
#33	'risk scores':ab,ti	23436	#####
#32	'populations at risk':ab,ti	3715	#####
#31	'population at risk':ab,ti	6000	#####
#30	'correlates, health':ab,ti	12	#####
#29	'health correlates':ab,ti	628	#####
#28	'social risk factor':ab,ti	115	#####
#27	'risk factors, social':ab,ti	148	#####
#26	'risk factor, social':ab,ti	7	#####
#25	'factors, social risk':ab,ti	9	#####
#24	'factor, social risk':ab,ti	0	#####
#23	'social risk factors':ab,ti	1433	#####
#22	'risk factor':ab,ti	410447	#####
#21	'factor, risk':ab,ti	347	#####
#20	'risk factors':ab,ti	882107	#####
#19	'risk factor'/exp	1413991	#####
#18	#14 OR #15 OR #16 OR #17	19946	#####
#17	'infection, bloodstream':ab,ti	74	#####
#16	'bloodstream infections':ab,ti	13038	#####
#15	'bloodstream infection':ab,ti	9701	#####
#14	'bloodstream infection':ab,ti	9701	#####
#13	#6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12	39940	#####
#12	'central venous catheter':ab,ti	14006	#####
#11	'venous catheters, central':ab,ti	12	#####
#10	'venous catheter, central':ab,ti	21	#####
#9	'catheters, central venous':ab,ti	34	#####
#8	'catheter, central venous':ab,ti	68	#####
#7	'central venous catheters':ab,ti	8544	#####
#6	'central venous catheter'/exp	34349	#####
#5	#1 OR #2 OR #3 OR #4	3960312	#####
#4	'pediatrics':ab,ti	60252	#####
#3	'children':ab,ti	1733373	#####
#2	'child':ab,ti	578690	#####
#1	'child'/exp	3469885	#####

Search-history

limits	#	retrieval formula	database	Search results	Date of operation
- WOS.IC: 1993 to 2024 - WOS.CCR: 1985 to 2024 - WOS.SCI: 1975 to 2024 - WOS.AHCI: 1975 to 2024 - WOS.BHCI: 2005 to 2024 - WOS.BSCI: 2005 to 2024 - WOS.ESCI: 2019 to 2024 - WOS.ISTP: 1990 to 2024 - WOS.SSCI: 1965 to 2024 - WOS.ISSHP: 1990 to 2024	1	TS=(Child) OR TS=(Children) OR TS=(Pediatrics)	Web of Science Core Collection	2069704	Thu Apr 11 2024 10:25:18 GMT+0800 (CST)
- WOS.IC: 1993 to 2024 - WOS.CCR: 1985 to 2024 - WOS.SCI: 1975 to 2024 - WOS.AHCI: 1975 to 2024 - WOS.BHCI: 2005 to 2024 - WOS.BSCI: 2005 to 2024 - WOS.ESCI: 2019 to 2024 - WOS.ISTP: 1990 to 2024 - WOS.SSCI: 1965 to 2024 - WOS.ISSHP: 1990 to 2024	2	TS=(Central Venous Catheters) OR TS=(Catheter, Central Venous) OR TS=(Catheters, Central Venous) OR TS=(Venous Catheter, Central) OR TS=(Venous Catheters, Central) OR TS=(Central Venous Catheter)	Web of Science Core Collection	18991	Thu Apr 11 2024 10:28:24 GMT+0800 (CST)
- WOS.IC: 1993 to 2024 - WOS.CCR: 1985 to 2024 - WOS.SCI: 1975 to 2024 - WOS.AHCI: 1975 to 2024 - WOS.BHCI: 2005 to 2024 - WOS.BSCI: 2005 to 2024 - WOS.ESCI: 2019 to 2024 - WOS.ISTP: 1990 to 2024 - WOS.SSCI: 1965 to 2024 - WOS.ISSHP: 1990 to 2024	3	TS=(Bloodstream Infection) OR TS=(Bloodstream Infection) OR TS=(Bloodstream Infections) OR TS=(Infection, Bloodstream)	Web of Science Core Collection	18168	Thu Apr 11 2024 10:31:46 GMT+0800 (CST)
- WOS.IC: 1993 to 2024 - WOS.CCR: 1985 to 2024 - WOS.SCI: 1975 to 2024 - WOS.AHCI: 1975 to 2024 - WOS.BHCI: 2005 to 2024 - WOS.BSCI: 2005 to 2024 - WOS.ESCI: 2019 to 2024 - WOS.ISTP: 1990 to 2024 - WOS.SSCI: 1965 to 2024 - WOS.ISSHP: 1990 to 2024	4	TS=(Risk Factors)OR TS=(Factor, Risk) OR TS=(Risk Factor) OR TS=(Social Risk Factors) OR TS=(Factor, Social Risk) OR TS=(Factors, Social Risk) OR TS=(Risk Factor, Social) OR TS=(Risk Factors, Social) OR TS=(Social Risk Factor) OR TS=(Health Correlates) OR TS=(Correlates, Health) OR TS=(Population at Risk) OR TS=(Populations at Risk) OR TS=(Risk Scores) OR TS=(Risk Score) OR TS=(Score, Risk) OR TS=(Risk Factor Scores) OR TS=(Risk Factor Score) OR TS=(Score, Risk Factor)	Web of Science Core Collection	2158184	Thu Apr 11 2024 10:36:59 GMT+0800 (CST)
- WOS.IC: 1993 to 2024 - WOS.CCR: 1985 to 2024 - WOS.SCI: 1975 to 2024 - WOS.AHCI: 1975 to 2024 - WOS.BHCI: 2005 to 2024 - WOS.BSCI: 2005 to 2024 - WOS.ESCI: 2019 to 2024 - WOS.ISTP: 1990 to 2024 - WOS.SSCI: 1965 to 2024 - WOS.ISSHP: 1990 to 2024	5	#4 AND #3 AND #2 AND #1	Web of Science Core Collection	234	Thu Apr 11 2024 10:37:44 GMT+0800 (CST)

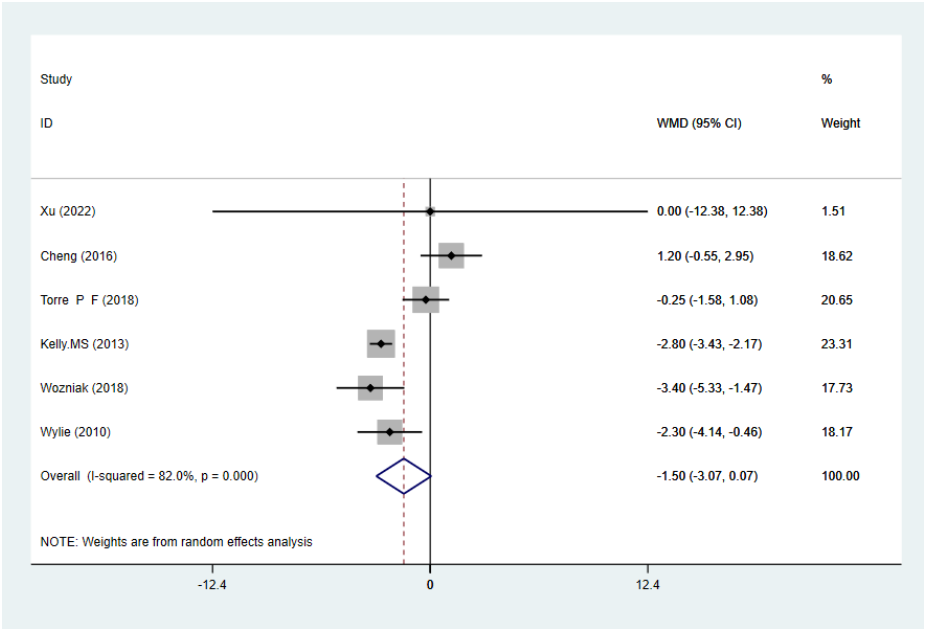
Appendix 2

Excluded studies and reasons for their exclusion		
Author (year)	Research title	Reasons for exclusion
K. Thompson2023	Implementation of Supportive Care Program to Decrease CLABSI in a Middle East Pediatric Hematology and Oncology Inpatient Unit	Ineligible study design (not a cohort study or randomized controlled trial)
N. M. Bilen2023	Risk Factors for Infection and Mortality Associated With Stenotrophomonas maltophilia Bloodstream Infections in Children; Comparison With Pseudomonas aeruginosa Bloodstream Infections	The data are incomplete, and the required information cannot be extracted.
R. Halda2022	Central Venous Catheter-Related Infectious Complications in Pediatric Surgical Patients: A Single-Center Experience	The data are incomplete, and the required information cannot be extracted.
F. Akgül2021	Incidence and Risk Factors of Nosocomial Bloodstream Infections in Pediatric Intensive Care Unit	Ineligible study design
Z. S. Bal2019	Risk Factors of Bloodstream Infections Caused by Carbapenem-resistant Gram-negative Pathogens in Pediatric Critical Care Settings	The data are incomplete, and the required information cannot be extracted.
A. Badheka2019	Outcomes associated with peripherally inserted central catheters in hospitalised children: a retrospective 7-year single-centre experience	The data are incomplete, and the required information cannot be extracted.
S. K2019	Central Line-associated Bloodstream Infections in Cancer Patients: An Experience from a Tertiary Care Cancer Centre	The data are incomplete, and the required information cannot be extracted.
H. García2018	Risk factors for nosocomial infections after cardiac surgery in newborns with congenital heart disease	Ineligible study design
E. Venturini2016	Central-line associated bloodstream infections in a tertiary care children's University hospital: a prospective study	The data are incomplete, and the required information cannot be extracted.
S. H. Youn2015	Central Venous Catheter-Related Infection in Severe Trauma Patients	The data are incomplete, and the required information cannot be extracted.
R. A2015	Bloodstream infection in paediatric cancer centres--leukaemia and relapsed malignancies are independent risk factors	The data are incomplete, and the required information cannot be extracted.
V. Chopra2014	PICC-associated Bloodstream Infections: Prevalence, Patterns, and Predictors	Ineligible study design
M. Pavcnik-Arnol2014	The risk of central line-associated bloodstream infections with different types of central vascular catheters in a multidisciplinary neonatal and pediatric intensive care unit	The data are incomplete, and the required information cannot be extracted.
T. I. van der2012	Catheter application, insertion vein and length of ICU stay prior to insertion affect the risk of catheter-related bloodstream infection	The subjects were adults, which did not meet the inclusion criteria.
M. Kelly2011	Moving CLABSI prevention beyond the intensive care unit: risk factors in pediatric oncology patients	The data are incomplete, and the required information cannot be extracted.
P. B. Cardemil2011	RISK FACTORS OF BLOODSTREAM INFECTIONS ASSOCIATED WITH PARENTERAL NUTRITION IN PEDIATRIC PATIENTS	
S. H. Youn2011	Central Venous Catheter-Related Infection in Severe Trauma Patients	The subjects were adults, which did not meet the inclusion criteria.
M. H. Tsai2014	Polymicrobial Bloodstream Infection in Neonates: Microbiology, Clinical Characteristics, and Risk Factors	Ineligible study design
J. L. Robinson2014	Prospective cohort study of the outcome of and risk factors for intravascular catheter-related bloodstream infections in children with intestinal failure	Ineligible study design
A. L. Buchman2014	Risk factors for the development of catheter-related bloodstream infections in patients receiving home parenteral nutrition	The subjects were adults, which did not meet the inclusion criteria.
K. J. Downes2008	Polymicrobial bloodstream infections among children and adolescents with central venous catheters evaluated in ambulatory care	Ineligible study design
M. Handrup2011	Central venous catheters and catheter locks in children with cancer: a prospective randomized trial of taurolidine versus heparin	Ineligible study design
S. Wolfson2018	A retrospective analysis of clinical and laboratory factors predictive of central line associated bloodstream infections in children with short bowel syndrome	Ineligible study design
Y. Wu2018	Effect of antibiotic impregnated central venous catheters on serious thrombosis in the pediatric intensive care setting	Ineligible study design
K. E. Bujold2020	Continuous low-dose heparin infusion for catheter-related thrombosis prophylaxis in critically-ill children	Ineligible study design
S. Silvetti2018	Jugular vs femoral vein for central venous catheterization in pediatric cardiac surgery (PRECiSE): study protocol for a randomized controlled trial	Ineligible study design
A. J. Ullman2021	Peripherally Inserted Central catheter iNnovation to reduce Infections and Clots (the PICNIC trial): a randomised controlled trial protocol	Ineligible study design
M. Ornowska2022	Control of Line Complications with KiteLock (CLiCK) in the critical care unit: study protocol for a multi-center, cluster-randomized, double-blinded, crossover trial investigating the effect of a novel locking fluid on central line complications in the critical care population	Ineligible study design
L.Tourvieilh,2022	Increase of recurrent central line-associated bloodstream infections in children with home parenteral nutrition in a rehabilitation care facility compared to home	Ineligible study design
R. A. M. Silva2022	Induction therapy for acute lymphoblastic leukemia: incidence and risk factors for bloodstream infections	Ineligible study design
A. E. Sfetsiori2022	Predictive Factors for Gram-negative Versus Gram-positive Bloodstream Infections in Children With Cancer	Ineligible study design
S. Ruvinsky,2022	Carbapenem-resistant Enterobacteriaceae bloodstream infections: A case-control study from a pediatric referral hospital in Argentina	The data are incomplete, and the required information cannot be extracted.
M. Miyagishima,2022	Risk factors for unplanned removal of central venous catheters in hospitalized children with hematological and oncological disorders M. Miyagishima,	The data are incomplete, and the required information cannot be extracted.
K. Khieosanuk2022	Incidence rate and risk factors of central line-associated bloodstream infections among neonates and children admitted to a tertiary care university hospital	Ineligible study design
W. Q. Che2022	Postoperative Rather Than Preoperative Neutropenia Is Associated With Early Catheter-related Bloodstream Infections in Newly Diagnosed Pediatric Cancer Patients	Ineligible study design

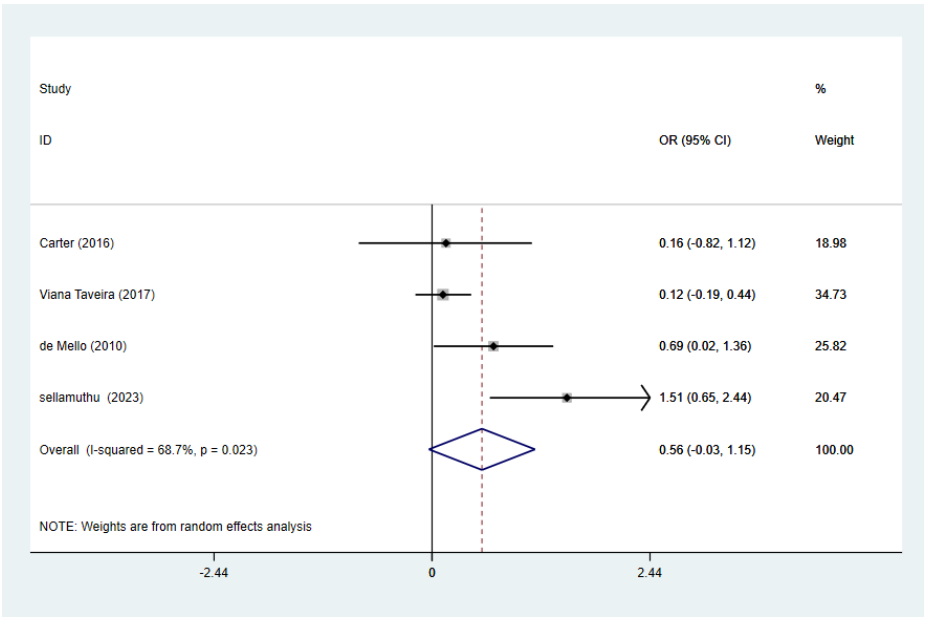
Appendix 3

Meta-analysis of other factors

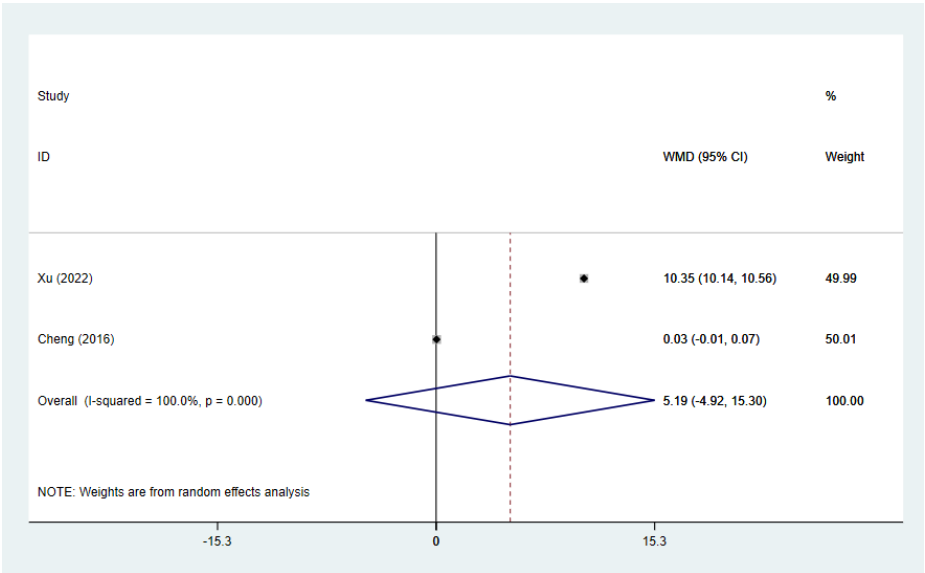
Age (univariate)



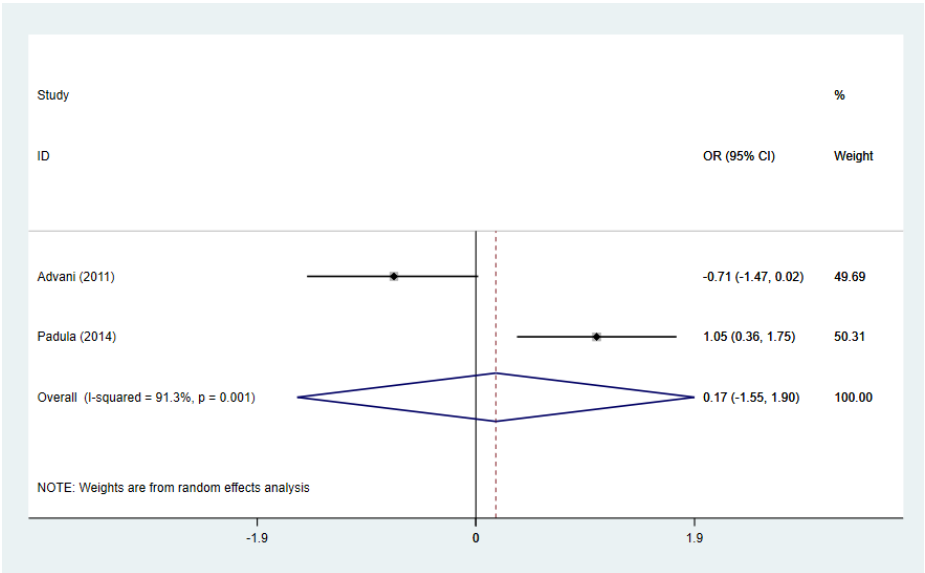
Age (multivariate)



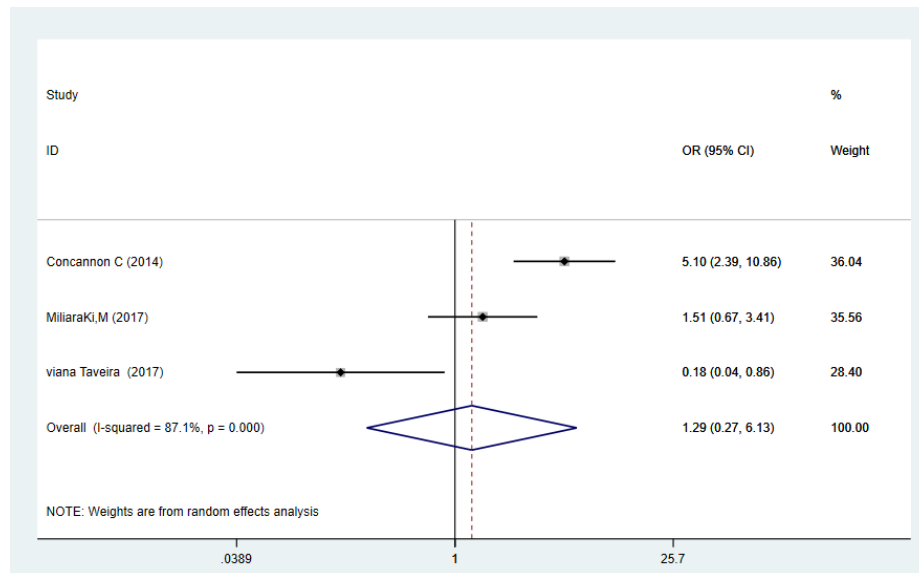
Birth weight (univariate)



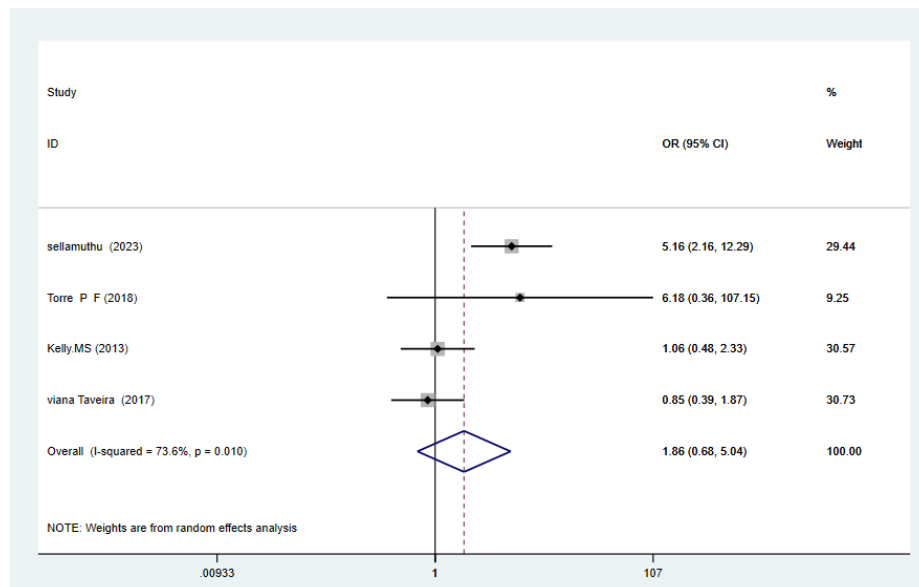
Pulmonary disease (univariate)



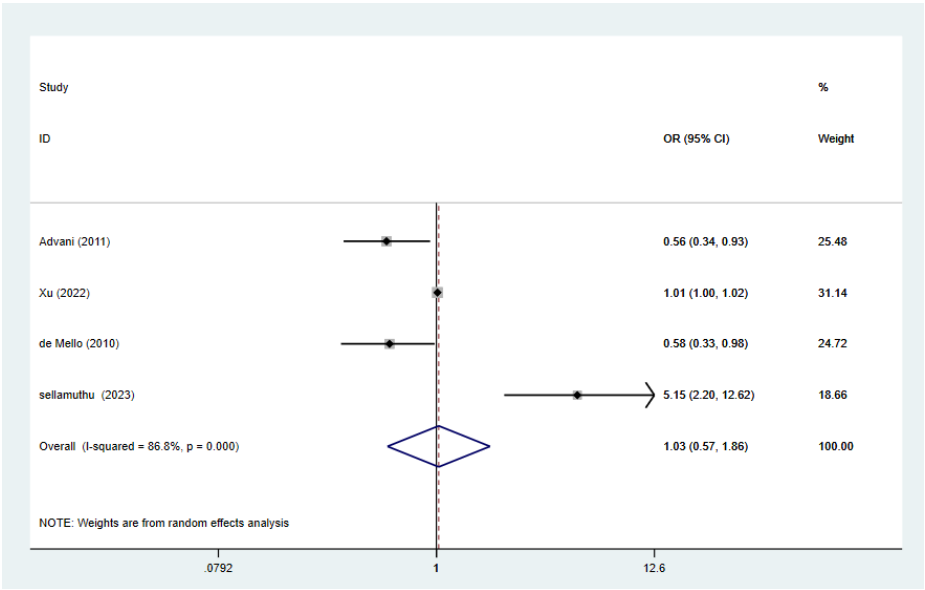
Chemotherapy (univariate)



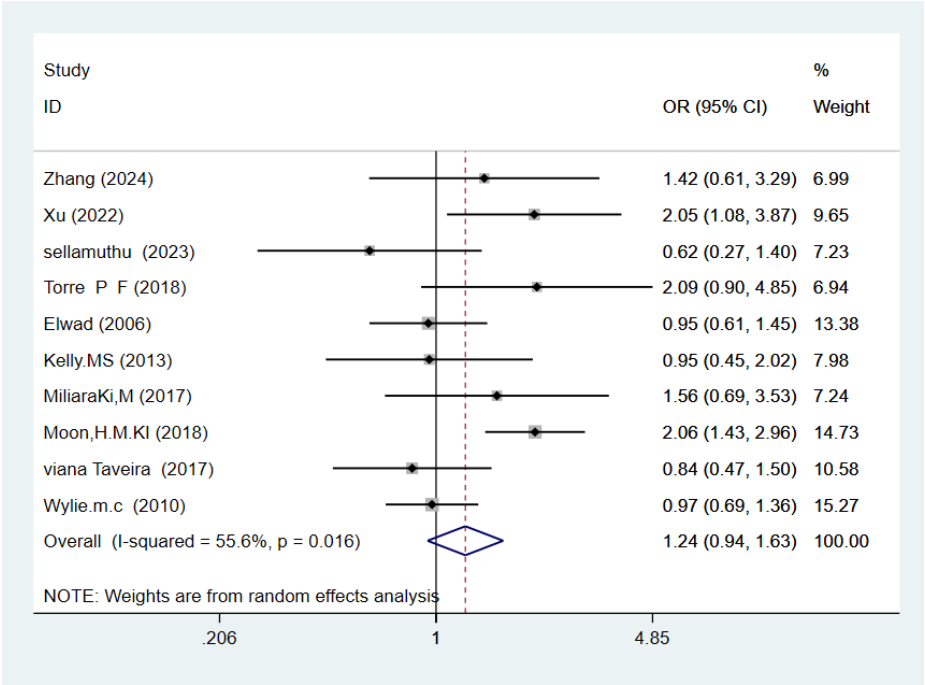
Antibiotics (univariate)



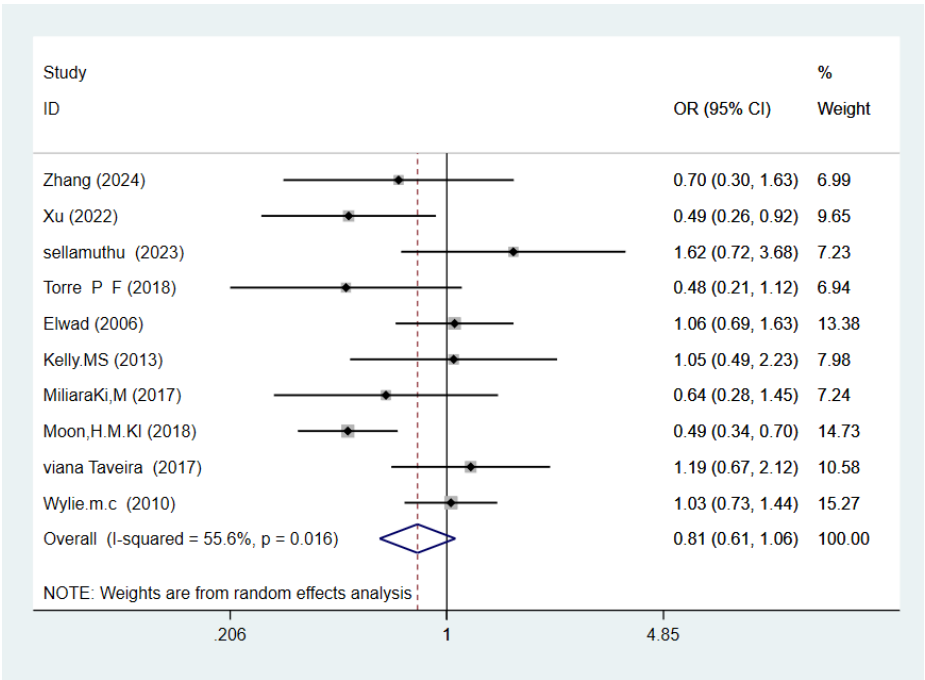
Antibiotics (multivariate)



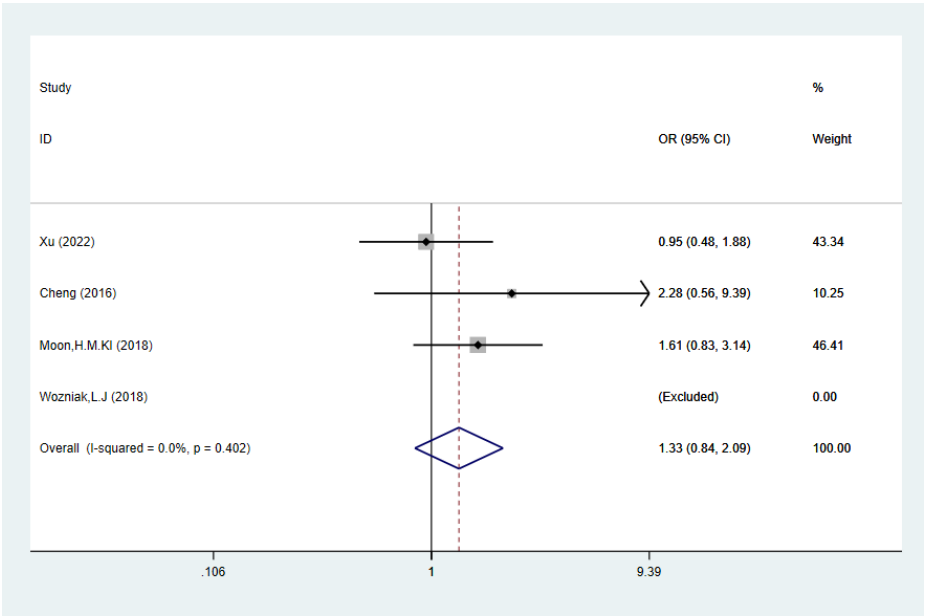
Male (univariate)



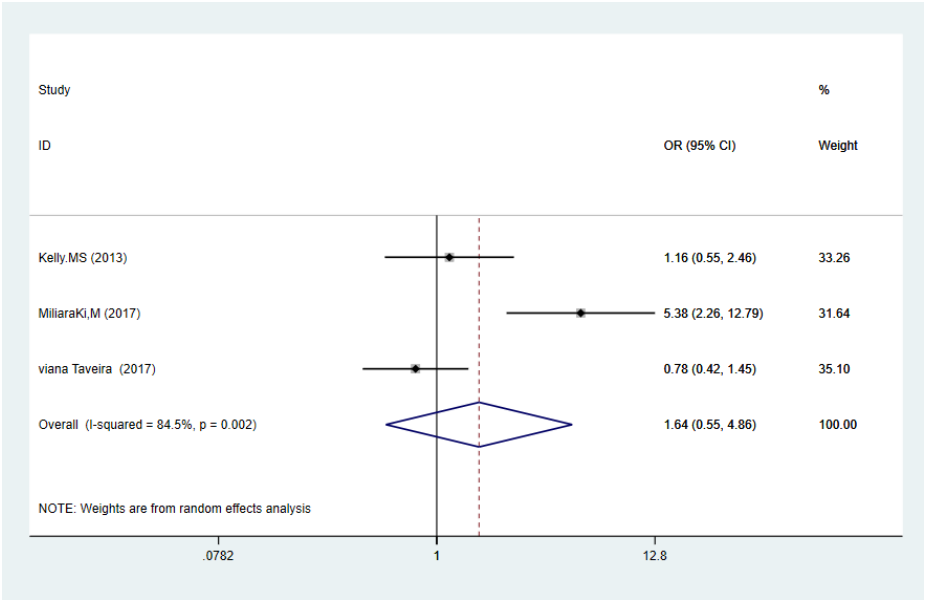
Female (univariate)



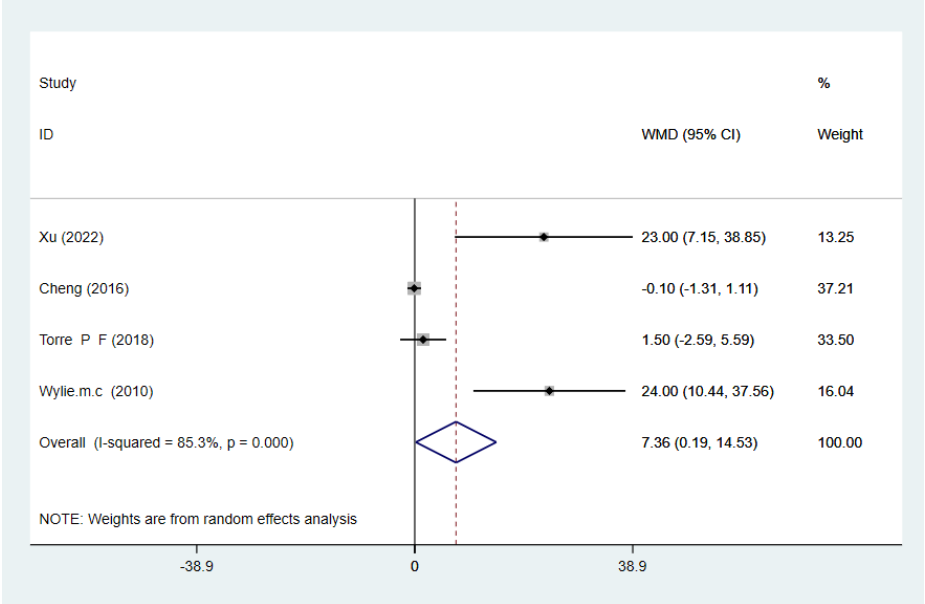
Gastrointestinal disease (univariate)



Hematologic tumor (univariate)



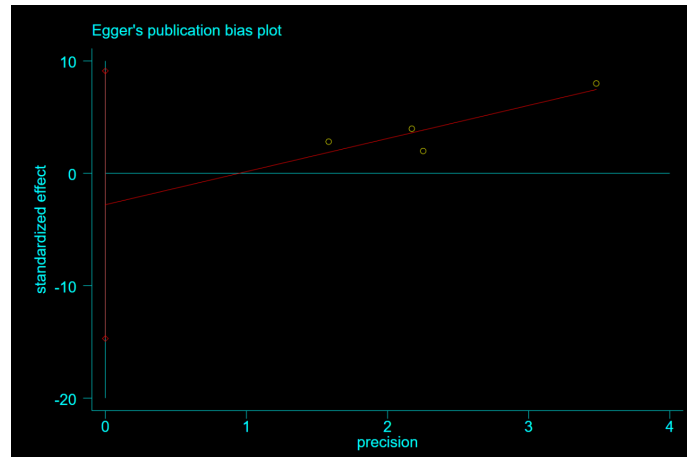
Hospital stays (univariate)



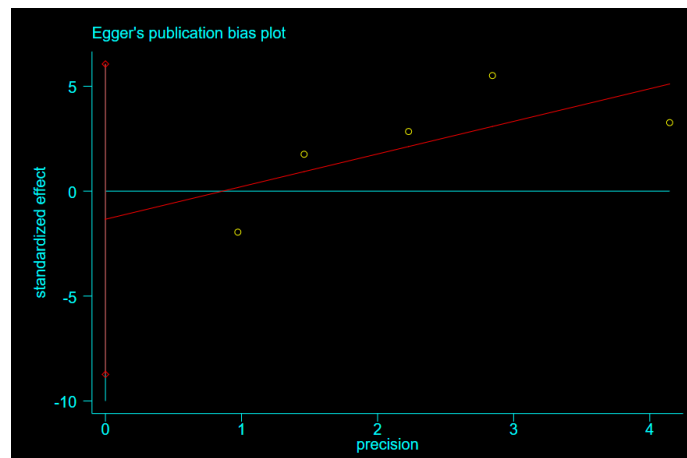
Appendix 4

Egger's test

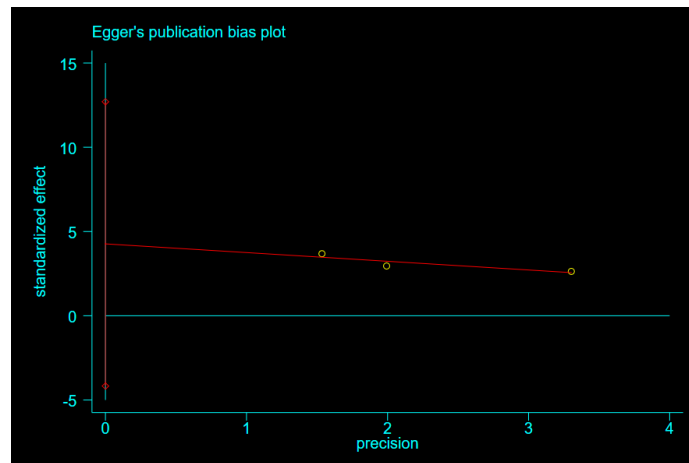
Blood transfusion (univariate), egger 0.42



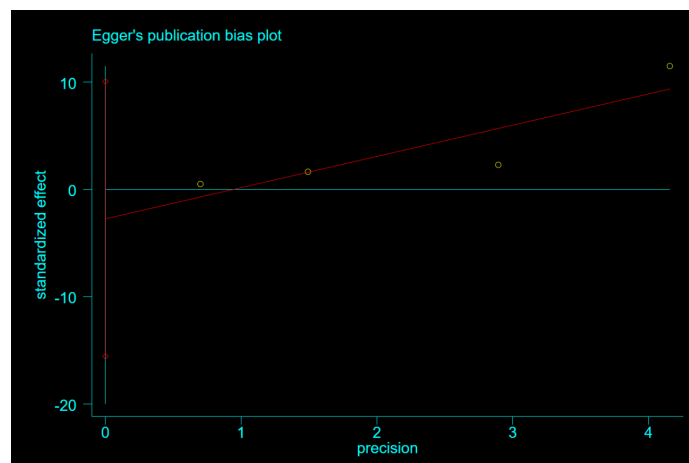
Congenital diseases (univariate), egger 0.61



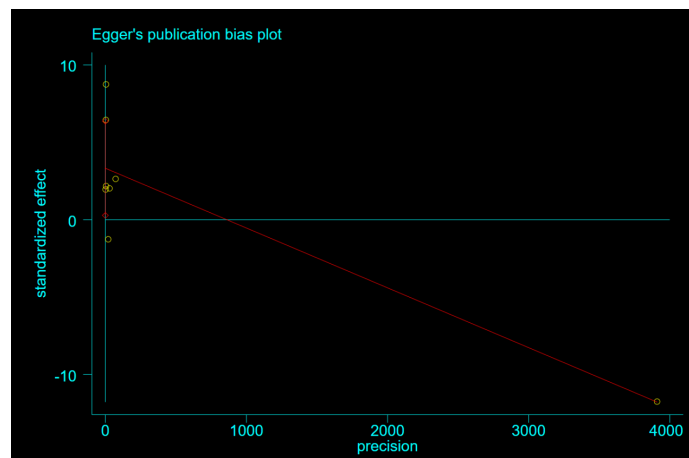
Central nervous system diseases (univariate), egger 0.10



Total parenteral nutrition (univariate), egger 0.45



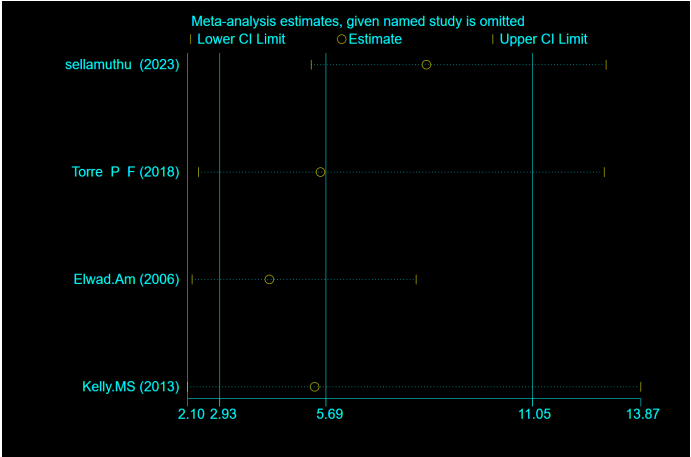
Duration of catheterization (multivariate), egger 0.04



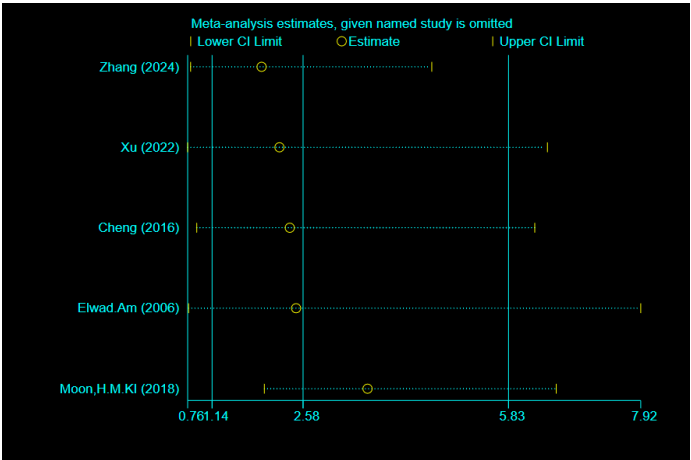
Appendix 5

Sensitivity analysis

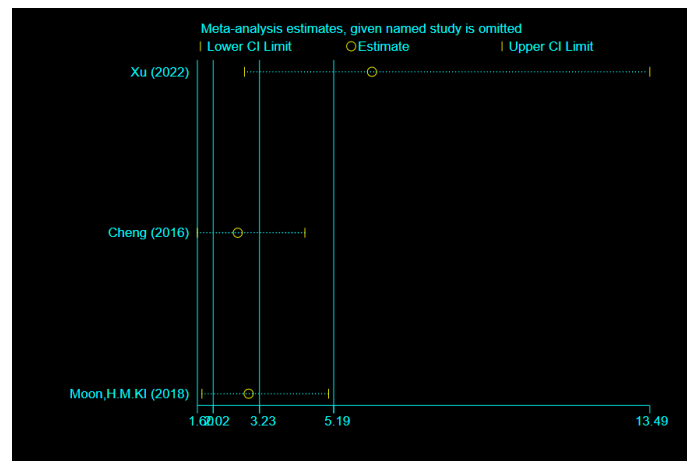
Sensitivity analysis of blood transfusion (univariate)



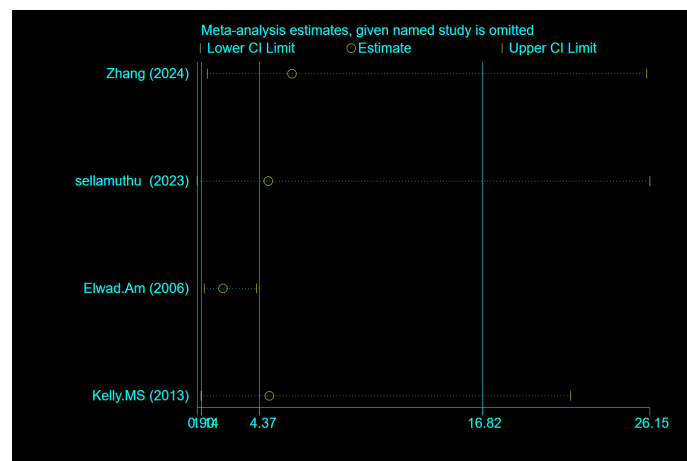
Sensitivity analysis of congenital diseases (univariate)



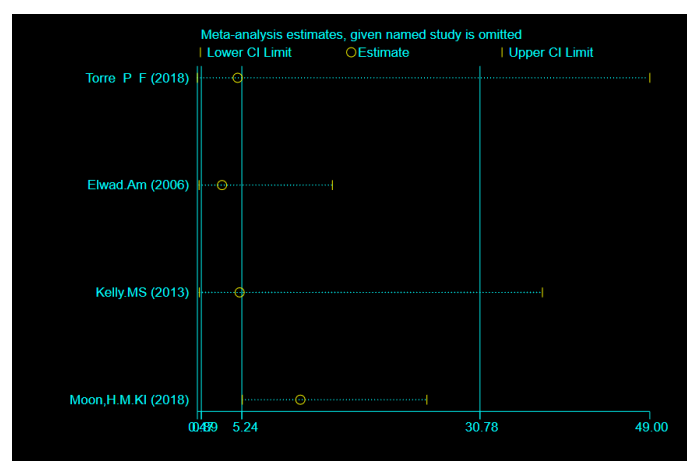
Sensitivity analysis of central nervous system diseases (univariate)



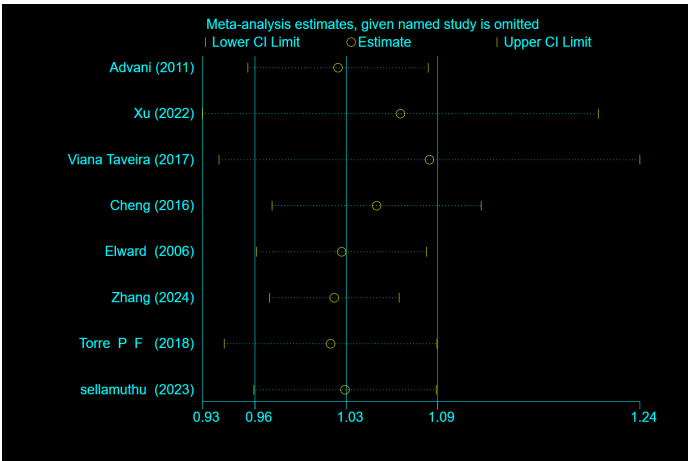
Sensitivity analysis of total parenteral nutrition (univariate)



Sensitivity analysis of multiple catheters (univariate)



Sensitivity analysis of duration of catheterization (multivariate)



Appendix 6

Risk factors and preventive measures for CLABSI in children

Risk factors	Preventive measures
Abnormal white blood cell count	- Monitor white blood cell count regularly and adjust treatment plans in a timely manner. - Use granulocyte colony stimulating factor (G-CSF) to promote white blood cell production
Multiple catheters indwelling	Minimize unnecessary catheter indwelling. - Regularly assess the necessity of catheter use and promptly remove catheters that are no longer needed.
Total parenteral nutrition	Strictly follow aseptic operation to avoid contamination of nutrient solution. - Regularly replace nutrition bags and infusion lines to reduce the risk of infection
Blood transfusion	-Use leukocytes to filter blood products and reduce transfusion-related infections. - Strictly follow blood transfusion operating procedures to ensure the safety of blood products
Congenital diseases	Strengthen immune support therapy for children with congenital diseases. - Regularly monitor infection indicators to detect and treat infections early
Prolonged duration of catheter indwelling	Minimize catheter indwelling time and avoid unnecessary extension. - Regularly assess the necessity of catheter use and remove the catheter in a timely manner
Central nervous system diseases	Strengthen the care of children with central nervous system diseases to reduce the risk of infection. - Regularly monitor infection indicators and intervene early