

Supplementary Online Content

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eReferences

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. MOOSE Checklist¹

Item No	Recommendation	Reported on Page No
Reporting of background should include		
1	Problem definition	5
2	Hypothesis statement	N/A
3	Description of study outcome(s)	5
4	Type of exposure or intervention used	5
5	Type of study designs used	5-7
6	Study population	5-7
Reporting of search strategy should include		
7	Qualifications of searchers (eg, librarians and investigators)	6
8	Search strategy, including time period included in the synthesis and key words	eTables 2-6
9	Effort to include all available studies, including contact with authors	6-7
10	Databases and registries searched	6
11	Search software used, name and version, including special features used (eg, explosion)	6-8
12	Use of hand searching (eg, reference lists of obtained articles)	6-7
13	List of citations located and those excluded, including justification	6-7
14	Method of addressing articles published in languages other than English	6-7
15	Method of handling abstracts and unpublished studies	6-7
16	Description of any contact with authors	6-7
Reporting of methods should include		
17	Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested	6-8
18	Rationale for the selection and coding of data (eg, sound clinical principles or convenience)	6-8
19	Documentation of how data were classified and coded (eg, multiple raters, blinding and interrater reliability)	7
20	Assessment of confounding (eg, comparability of cases and controls in studies where appropriate)	7-8
21	Assessment of study quality, including blinding of quality assessors, stratification or regression on possible predictors of study results	7
22	Assessment of heterogeneity	6-8
23	Description of statistical methods (eg, complete description of fixed or random effects models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated	7-8
24	Provision of appropriate tables and graphics	Table 1, Figures 1-4
Reporting of results should include		

25	Graphic summarizing individual study estimates and overall estimate	Figure 1
26	Table giving descriptive information for each study included	Table 1
27	Results of sensitivity testing (eg, subgroup analysis)	8-12, eTable 9
28	Indication of statistical uncertainty of findings	8-12
Reporting of discussion should include		
29	Quantitative assessment of bias (eg, publication bias)	11-12
30	Justification for exclusion (eg, exclusion of non-English language citations)	7
31	Assessment of quality of included studies	11-12
Reporting of conclusions should include		
32	Consideration of alternative explanations for observed results	12-17
33	Generalization of the conclusions (ie, appropriate for the data presented and within the domain of the literature review)	12-17
34	Guidelines for future research	12-17
35	Disclosure of funding source	18

eTable 2. Search Strategy—MEDLINE

1	exp Diabetes Mellitus, Type 2/
2	NIDDM.ti,ab,kf.
3	MODY.ti,ab,kf.
4	t2d*.ti,ab,kf.
5	((typ* two or typ?two or typ* 2 or typ* II or typ?2 or typ?II or typ* ii or typ?ii) adj4 diabet*).ti,ab,kf.
6	((non insulin or noninsulin or late or adult* or matur* or slow or stabl*) adj4 diabet*).ti,ab,kf.
7	((ketoresist* or keto* resist* or keto* prone) adj4 diabet*).ti,ab,kf.
8	or/1-7
9	exp Child/
10	child*.ti,ab,kf.
11	adolescen*.ti,ab,kf.
12	exp Adolescent/
13	youth*.ti,ab,kf.
14	teenage*.ti,ab,kf.
15	preadolescen*.ti,ab,kf.
16	Pediatrics/
17	p?ediatric*.ti,ab,kf.
18	pe?diatric*.ti,ab,kf.
19	or/9-18
20	8 and 19
21	Diabetic Retinopathy/
22	retinopath*.ti,ab,kf.
23	retinitis.ti,ab,kf.
24	NPDR.ti,ab,kf.
25	PDR.ti,ab,kf.
26	(vitre* adj2 (detach* or hemorrhag*)).ti,ab,kf.
27	(retina* adj2 detach*).ti,ab,kf.
28	(diabet* adj3 maculopath*).ti,ab,kf.
29	or/21-28
30	20 and 29
31	Prevalence/
32	prevalence.ti,ab,kf.
33	prevalence studies/
34	Incidence/
35	incidence studies/
36	incidence.ti,ab,kf.
37	Epidemiology/

38	epidemiolog*.ti,ab,kf.
39	ep.fs.
40	epidemiologic methods/ or epidemiological monitoring/ or sentinel surveillance/
41	exp epidemiologic studies/
42	case-control.ti,ab,kf.
43	cohort.ti,ab,kf.
44	prospective.ti,ab,kf.
45	longitudinal.ti,ab,kf.
46	retrospective.ti,ab,kf.
47	cross sectional.ti,ab,kf.
48	correlational.ti,ab,kf.
49	or/31-48
50	30 and 49
51	50 not (animals/ not (humans/ and animals/))
52	remove duplicates from 51

eTable 3. Search Strategy—Embase

1	non insulin dependent diabetes mellitus/
2	NIDDM.ti,ab,kw.
3	MODY.ti,ab,kw.
4	t2d*.ti,ab,kw.
5	((typ* two or typ?two or typ* 2 or typ* II or typ?2 or typ?II or typ* ii or typ?ii) adj4 diabet*).ti,ab,kw.
6	((non insulin or noninsulin or late or adult* or matur* or slow or stabl*) adj4 diabet*).ti,ab,kw.
7	((ketoresist* or keto* resist*) adj6 diabet*).ti,ab,kw.
8	or/1-7
9	exp child/
10	child*.ti,ab,kw.
11	adolescent/
12	adolescen*.ti,ab,kw.
13	youth*.ti,ab,kw.
14	teenage*.ti,ab,kw.
15	preadolescen*.ti,ab,kw.
16	pediatrics/
17	p?ediatric*.ti,ab,kw.
18	pe?diatric*.ti,ab,kw.
19	or/9-18
20	8 and 19
21	diabetic retinopathy/
22	retinopath*.ti,ab,kw.
23	retinitis.ti,ab,kw.
24	NPDR.ti,ab,kw.
25	PDR.ti,ab,kw.
26	(vitre* adj2 (detach* or hemorrhag*)).ti,ab,kw.
27	(retina* adj2 detach*).ti,ab,kw.
28	(diabet* adj3 maculopath*).ti,ab,kw.
29	or/21-28
30	20 and 29
31	prevalence/
32	prevalence.ti,ab,kw.
33	incidence/
34	incidence.ti,ab,kw.
35	epidemiology/
36	epidemiolog*.ti,ab,kw.
37	ep.fs.

38	epidemiological monitoring/
39	sentinel surveillance/
40	case-control.ti,ab,kw.
41	cohort.ti,ab,kw.
42	prospective.ti,ab,kw.
43	longitudinal.ti,ab,kw.
44	retrospective.ti,ab,kw.
45	cross sectional.ti,ab,kw.
46	correlational.ti,ab,kw.
47	or/31-46
48	30 and 47
49	48 not (animals/ not (humans/ and animals/))
50	remove duplicates from 49

eTable 4. Search Strategy—CINAHL

#	Query
S1	(MH "Child+")
S2	"child*"
S3	(MH "Adolescence+")
S4	"youth*"
S5	"teenage*"
S6	(MH "Pediatrics")
S7	"p?ediatric"
S8	"p#ediatric"
S9	"pe#diatric"
S10	"pediatric"
S11	"preadolescen*"
S12	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11
S13	(MH "Diabetes Mellitus, Type 2")
S14	"NIDDM"
S15	"MODY"
S16	"T2D*"
S17	(typ* two or typ?two or typ* 2 or typ* II or typ?2 or typ?II) N4 diabet*
S18	(non insulin or noninsulin or late or adult* or matur* or slow or stabl*) N4 diabet*
S19	(ketoresist* or keto* resist* or keto* prone) adj4 diabet*
S20	S13 OR S14 OR S15 OR S16 OR S17 OR S18 OR S19
S21	S12 AND S20
S22	"diabet* N3 maculopath*"
S23	"retina* N2 detach*"
S24	"vitre* N2 (detach* or hemorrhag*)"
S25	"PDR"
S26	"NPDR"
S27	""retinitis""
S28	""retinopath*""
S29	(MH "Diabetic retinopathy")
S30	S22 OR S23 OR S24 OR S25 OR S26 OR S27 OR S28 OR S29
S31	(MH "Prevalence")
S32	"prevalence"

S33	(MH "Cross Sectional Studies")
S34	"cross section**"
S35	(MH "Incidence")
S36	"incidence"
S37	(MH "Epidemiology")
S38	"epidemiolog**"
S39	(MH "Epidemiological Research")
S40	(MH "Prospective Studies") OR (MH "Cross Sectional Studies") OR (MH "Case Control Studies") OR (MH "Correlational Studies")
S41	"case control" or "cohort" or "prospective" or "retrospective" or "longitudinal" or "correlational"
S42	S31 OR S32 OR S33 OR S34 OR S35 OR S36 OR S37 OR S38 OR S39 OR S40 OR S41
S43	(S21 AND S30 AND S42) NOT (MH "Animals")

eTable 5. Search Strategy—Cochrane Library: Cochrane Central Register of Controlled Trials and Cochrane Database of Systematic Reviews

child* OR youth* OR teenage* OR adolescen* OR pediatric* OR preadolescen* OR p?ediatric* OR pe?diatric* in Title Abstract Keyword	AND
NIDDM OR MODY OR t2d OR typ* two NEAR/4 diabet* OR typ?two NEAR/4 diabet* OR typ* 2 NEAR/4 diabet* OR typ* II NEAR/4 diabet* OR typ?2 NEAR/4 diabet* OR typ?II NEAR/4 diabet* OR typ* ii NEAR/4 diabet* OR typ?ii NEAR/4 diabet* OR non insulin NEAR/4 diabet* OR noninsulin NEAR/4 diabet* OR late or adult* NEAR/4 diabet* OR matur* NEAR/4 diabet* OR slow NEAR/4 diabet* OR stabl* NEAR/4 diabet* OR ketoresist* NEAR/4 diabet* OR keto* resist* NEAR/4 diabet* OR keto* prone NEAR/4 diabet* in Title Abstract Keyword	AND
retinopath* OR retinitis OR NPDR OR PDR OR vitre* NEAR/2 detach* OR vitre* NEAR/2 hemorrhag* retina* NEAR/2 detach* OR diabet* NEAR/3 maculopath* in Title Abstract Keyword	
(Word variations have been searched)	

eTable 6. Search Strategy—Web of Science: Conference Proceedings Citation Index—Science

#1	TI=(child* OR youth* OR teenage* OR adolescen* OR pediatric* OR preadolescen* OR p?ediatric* OR pe?diatric*)
#2	TS=(child* OR youth* OR teenage* OR adolescen* OR pediatric* OR preadolescen* OR p?ediatric* OR pe?diatric*)
#3	#1 OR #2
#4	TI=(NIDDM OR MODY OR t2d OR typ* two NEAR/4 diabet* OR typ?two NEAR/4 diabet* OR typ* 2 NEAR/4 diabet* OR typ* II NEAR/4 diabet* OR typ?2 NEAR/4 diabet* OR typ?II NEAR/4 diabet* OR typ* ii NEAR/4 diabet* OR typ?ii NEAR/4 diabet* OR non insulin NEAR/4 diabet* OR noninsulin NEAR/4 diabet* OR late or adult* NEAR/4 diabet* OR matur* NEAR/4 diabet* OR slow NEAR/4 diabet* OR stabl* NEAR/4 diabet* OR ketoresist* NEAR/4 diabet* OR keto* resist* NEAR/4 diabet* OR keto* prone NEAR/4 diabet*)
#5	TS=(NIDDM OR MODY OR t2d OR typ* two NEAR/4 diabet* OR typ?two NEAR/4 diabet* OR typ* 2 NEAR/4 diabet* OR typ* II NEAR/4 diabet* OR typ?2 NEAR/4 diabet* OR typ?II NEAR/4 diabet* OR typ* ii NEAR/4 diabet* OR typ?ii NEAR/4 diabet* OR non insulin NEAR/4 diabet* OR noninsulin NEAR/4 diabet* OR late or adult* NEAR/4 diabet* OR matur* NEAR/4 diabet* OR slow NEAR/4 diabet* OR stabl* NEAR/4 diabet* OR ketoresist* NEAR/4 diabet* OR keto* resist* NEAR/4 diabet* OR keto* prone NEAR/4 diabet*)
#6	#4 OR #5
#7	#3 AND #6
#8	TI=(retinopath* OR retinitis OR NPDR OR PDR OR vitre* NEAR/2 detach* OR vitre* NEAR/2 hemorrhag* retina* NEAR/2 detach* OR diabet* NEAR/3 maculopath*)
#9	TS=(retinopath* OR retinitis OR NPDR OR PDR OR vitre* NEAR/2 detach* OR vitre* NEAR/2 hemorrhag* retina* NEAR/2 detach* OR diabet* NEAR/3 maculopath*)
#10	#8 OR #9
#11	#7 AND #10

eTable 7. Type 2 Diabetes Criteria Used Across the Included Studies

Author, year	T2DM Diagnostic Criteria	Testing of autoantibodies
Aulich, 2019 ²	Negative autoantibodies and without maturity onset diabetes of the young (MODY) or secondary diabetes mellitus	Y, all negative, unspecified
Amutha, 2021 ³	Absence of ketosis, or fasting C-peptide assay ≥ 0.6 pmol/ml and stimulated C-peptide value > 1.0 pmol/ml, or good response to oral hypoglycemic agents for more than 2 years	Y, GAD positive: 8/280 (2.9%)
Bai, 2022 ⁴	International Classification of Diseases, and International Classification of Diseases (ICD), Ninth Revision, codes diagnosing type 2 diabetes as “non–insulin-dependent diabetes mellitus” or “type 2 diabetes”	NR
Dart, 2014 ⁵	CDA criteria ³¹	Y, when available
Ek, 2020 ⁶	ADA criteria ³²	Y, when available
Eppens, 2006 (Australia) ⁷	Australasian Pediatric Endocrine Group criteria ³³ : negative diabetes-associated antibodies, elevated fasting insulin or C-peptide, or presence of acanthosis nigricans	Y, all negative, unspecified
Eppens, 2006 (Western Pacific) ⁸	OGTT, C-peptide or insulin levels, negative diabetes-associated autoantibodies, or clinical judgement	Y, all negative, unspecified
Farah, 2006 ⁹	Diagnosis from medical records	NR
Ferm, 2021 ¹⁰	Diagnosis from medical records	NR
Geloneck, 2015 ¹¹	Diagnosis from medical records	NR
Jefferies, 2012 ¹²	ADA criteria ³²	Y, when available
Jensen, 2021 ¹³	ADA criteria, ³² T2DM diagnosed in patients with negative pancreatic antibodies and fasting C-peptide ≥ 3.7 ng/ml or using clinical definitions	Y, GAD, IA-2, insulin: results NR
Khalil, 2019 ¹⁴	ADA criteria ³²	NR
Koziol, 2020 ¹⁵	ICD10 codes for T2DM (E11)	NR
Lee, 2007 ¹⁶	Diagnosis from medical records	NR
Newton, 2015 ¹⁷	Diagnosis from medical records	NR
Osman, 2013 ¹⁸	Clinical diagnosis based on T2DM symptoms at onset, presence of obesity, acanthosis nigricans, other features of metabolic syndrome, family history of T2DM and availability of abnormal insulin, or C-peptide levels as well as treatment given	NR
Preechasuk, 2022 ¹⁹	ADA criteria ³²	Y, when available
Porter, 2020 ²⁰	ICD10 codes for T2D (E11)	NR
Ruhayel, 2010 ²¹	ISPAD criteria ³⁴ , clinical details used such as strong family history of T2DM, being of high-risk ethnicity and presence of acanthosis nigricans to support diagnosis	Y, GAD, insulin and ICA: all negative

Schmidt, 2012 ²²	Diagnosis from medical records	NR
Scott, 2006 ²³	Diagnosis from medical records	NR
Shield, 2009 ²⁴	ADA criteria, ³² and raised fasting insulin (>132 pmol/l) or fasting C-peptide concentrations (>0.6 nmol/l) and/or negative ICA, GAD, insulin antibodies, with no insulin requirement 1 year after diagnosis or a case not meeting the above criteria but in which there had been no insulin requirement for the year after diagnosis	Y, ICA, GAD, insulin: all negative (only done in unclear cases)
TODAY, 2013 ²⁵	ADA criteria ³²	Y, GAD and tyrosine phosphatase: all negative
TODAY2, 2022 ²⁶	ADA criteria ³²	Y, GAD and tyrosine phosphatase: all negative
Unnikrishnan, 2008 ²⁷	No insulin requirement, no history of ketoacidosis, condition controlled on oral drugs for >1 year after	Y, GAD, all negative
Wang, 2017 ²⁸	At least 2 T2DM diagnoses (ICD-9-CM codes 250.xx or 362.01–362.07) on separate dates	NR
Yeh, 2017 ²⁹	Diagnosis from medical records	NR
Zuckerman Levin, 2022 ³⁰	ADA criteria ³²	Y, Unspecified: all negative

Legend: Y: yes, NR: not reported, GAD: glutamic acid decarboxylase, CDA: Canadian Diabetes Association, ADA: American Diabetes Association, OGTT: oral glucose tolerance test, T2DM: type 2 diabetes mellitus, IA-2: islet tyrosine phosphatase 2 antibody, ICA: islet cell antibodies, ISPAD: International Society for Pediatric and Adolescent Diabetes

eTable 8. Characteristics of Included Studies

Author, Year (Country)	Duration of diabetes (years)	Diabetic retinopathy prevalence No. (%)	Sample size	Sex distribution No. (%)	Racial distribution No. (%)	Subgroup by sex or ethnic group No. (%)	Prevalence of obesity No. (%)	Hypertension prevalence No. (%)	Mean HbA1c (%)
Eppens et al, ⁴² 2006 (Western Pacific)	2.3 (1.4–3.6) ^{b,d}	2 (0.6)	284	NR	NR	NR	106 (32.0) ^d	79 (24.0) ^d	7.0 (5.9–9.9) ^{c,d}
Farah et al, ⁴³ 2006 (USA)	1.8 (<2–15) ^d	1 (2.5)	40	NR	NR	NR	29 (72.5)	NR	9.1 ± NR
Unnikrishnan et al, ⁴⁴ 2008 (India)	NR	0 (0.0)	36	M: 21 (58.3), F: 15 (41.7)	Indian: 36 (100.0) ^e	Indian: 0 (0.0) ^e	NR	1 (3)	8.7 ± 2.1
Aulich et al, ⁴⁵ 2019 (Australia)	1.8 (0.3–3.3) ^{b,d}	2 (6.7)	30	NR	NR	NR	24 (75.0) ^d	6 (19.3) ^d	6.6 (5.6–9.2) ^{b,d}
Khalil et al, ⁴⁶ 2019 (Egypt)	2.5 ± 2.0	0 (0.0)	13	M: 6 (46.2), F: 7 (53.8)	Egyptian: 13 (100.0) ^e	Egyptian: 0 (0.0) ^e	NR	NR	NR
Ferm et al, ⁴⁷ 2021 (USA)	NR	13 (3.1)	416	NR	NR	NR		NR	NR
Scott et al, ⁴⁸ 2006 (New Zealand)	3.0 ± 0.3	8 (7.6)	105	NR	Maori/Pacific Islander/Other: 66 (62.9), European: 39 (37.1)	NR	105 (100)	21 (20.0)	8.5 ± 0.2
Lee et al, ⁴⁹ 2007 (Japan)	NR	10 (27.8)	36	M: 11 (31.6), F: 25 (69.4)	Japanese: 36 (100.0) ^e	M: 0 (0.0), F: 10 (40.0), Japanese: 10 (27.8) ^e	NR	NR	NR
Osman et al, ⁵⁰ 2013 (Sudan)	NR	0 (0.0)	38	M: 17 (44.7), F: 21 (55.3)	Arab: 32 (84.2), Mixed: 4 (10.5), Non-Arab: 2 (5.3)	NR	29 (76.3)	22 (57.9)	9.1 ± NR
Dart et al, ⁵¹ 2014 (Canada)	4.4 (0–27.4) ^c	40 (11.7)	342	M: 129 (37.8), F: 213 (62.2)	NR	NR	NR	34 (9.9) ^l 157 (45.8) ^m	8.9 ± 3.0 ^d
Geloneck et al, ⁵² 2015 (USA)	2.8 ± 2.3	0 (0.0)	32	M: 12 (37.5), F: 20 (62.5)	African American: 27 (84.4), Caucasian: 4 (12.5), Asian: 1 (3.1)	NR	NR	NR	8.9 ± 2.9

Newton et al,⁵³ 2015 (New Zealand)^a	0	1 (4.3)	23	NR	Samoan: 6 (26.2), Maori: 4 (17.4), Tokelauan: 4 (17.4), Cook Island Maori: 2 (8.7), Tongan: 2 (8.7), Chinese: 2 (8.7), Fijian: 1 (4.3), Indian: 1 (4.3), New Zealand European: 1 (4.3)	NR	22 (95.7)	NR	NR
Wang et al,⁵⁴ 2017 (USA)	3.1 (1.9-4.9) ^b	127 (7.2)	1768	M: 300 (17.0), F: 1468 (83.0)	Caucasian: 1278 (72.3), African American: 206 (11.7), Latino: 214 (12.1), Asian: 70 (4.0)	NR	NR	NR	5.6 (5.4-6.4) ^d
Yeh et al,⁵⁵ 2017 (USA)^a	NR	1 (7.1)	14	NR	NR	NR	NR	11 (16.9) ^l 26 (40.0) ^m	8.5 ± NR
Kozioł et al,⁵⁶ 2020 (Poland)	NR	79 (1.8)	4291 [#]	NR	Polish: 4291 (100) ^e	Polish: 79 (1.84) ^e	NR	NR	NR
Ek et al,⁵⁷ 2020 (Sweden)	6.7 ± 2.8	32 (31.1)	103	M: 62 (47.7) F: 68 (52.3)	Swedish: 103 (100) ^e	Swedish: 32 (31.1) ^e	60 (46.2)	12 (13.2) ^d	7.5 ± NR ^d
Porter et al,⁵⁸ 2020 (USA)	1.1 ± 1.26	3 (6.0)	50	M: 17 (34.0) F: 33 (66.0)	Non-Hispanic White: 12 (24.0), Non-Hispanic Black: 28 (56.0), Hispanic: 6 (12.0), Unknown 4 (8.0)	NR	NR	NR	8.1 ± 2.8
Amutha et al,⁵⁹ 2021 (India)	5.7 (NR-NR) ^{b,d}	118 (27.5)	429	NR	South Indian: 429 (100) ^e	South Indian: 118 (27.5) ^e	689 (77.5) ^{d,f}	157 (17.7) ^d	9.8 ± 2.4 ^d
Bai et al,⁶⁰ 2022 (USA)	0-15	17 (26.6)	64	M: 18 (28.1), F: 46 (71.9)	American Indian: 1 (1.6), Asian: 9 (14.1), Black: 12 (18.7), Hispanic: 4 (6.3), White: 35 (54.7), Mixed: 1 (1.6), Other: 1 (1.6), Unknown: 1 (1.6)	NR	NR	38 (8.2)	10.6 (2.5)

Eppens et al,¹² 2006 (Australia)	1.3 (0.6-3.1) ^{b,d}	1 (4.0)	25	NR	NR	NR	36 (56.3) ^d	21 (36.2) ^d	7.3 (6.0–8.3)
Shield et al,⁶¹ 2009 (UK and Republic of Ireland)	1 ^d	0 (0.0)	55	NR	NR	NR	61 (80.3) ^d	19 (32.2) ^d	7.5 ± NR
Ruhayel et al,⁶² 2010 (Australia)	5.17 ± 1.96 ^d	4 (25.0)	16	NR	NR	NR	23 (69.7) ^d	9 (30.0) ^d	7.0 (5.3–13.6) ^f
Jefferies et al,⁶³ 2012 (New Zealand)	NR	0 (0.0)	52	M: 17 (32.7), F: 35 (67.3)	Pacific Island or Maori: 47 (90.4), Other: 5 (9.6)	NR	NR	27 (52)	9.5 ± 2.5
Schmidt et al,⁶⁴ 2012 (Germany and Austria)	NR	12 (1.8)	684	M: 261 (38.2), F: 423 (61.8)	German/Austrian: 482 (70.5), Other: 202 (29.5)	NR	NR	202 (29.5)	7.19 ± 2.10
Jensen et al,⁶⁶ 2021 (USA)^a	7.5 ± 2.1	140 (31.3)	447	M: 77 (33.6), F: 152 (66.4)	Asian/Pacific Islander: 3 (1.3), Black: 100 (43.7), Hispanic: 51 (22.3), Native American: 19 (8.3), White: 55 (24.0), Other: 1 (0.4)	NR	NR	NR	NR
	12.4 ± 2.1	126 (55.0)	229		M: 45 (58.4), F: 81 (53.3), Asian/Pacific Islander: 1 (33.3), Black: 64 (64.0), Hispanic: 27 (52.9), Native American: 9 (47.4), White: 25 (45.5), Other: 0 (0.0)				
Preechakul et al,⁶⁷ 2022 (Thailand)	5.2 (1.6-9.4) ^b	8 (9.0)	89	M: 41 (43.2), F: 54 (56.8)	Thai: 89 (100.0) ^e	Thai: 8 (9.0) ^e	79 (83.2)	35 (36.8)	NR
TODAY Study Group et al,⁶⁸ 2013 (USA)	4.9 ± 1.5	71 (13.7)	517	M: 184 (35.6), F: 333 (64.4)	NR	NR	517 (100.0) ^f	NR	7.1 ± 1.7
TODAY2 et al,⁶⁵ 2021 (USA)	12.0 ± 1.5	210 (50.0)	420	NR	NR	NR	NR	224 (61.0)	7.9 ± 1.9
Zuckerman Levin et al,⁶⁹	At presentation: 0	At presentation: 4 (1.9)	At presentation: 216	M: 151 (39.8), F: 228 (60.2)	Israeli Jews: 221 (58.3), Israeli	NR	NR	128 (33.7)	8.8 (2.5)

2022 (Israel)	At follow- up: 2.9 ± 2.1	At follow- up: 5 (4.6)	At follow- up: 108	Arabs: 158 (41.7)
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Footnote: USA: United States of America, UK: United Kingdom, NR: not reported, NPDR: non-proliferative diabetic retinopathy, PDR: proliferative diabetic retinopathy, M: males, F: females; a: abstract only; age and duration reported as range, mean, mean ± standard deviation, mean (range), subgroup: n(%), b: median (interquartile range), c: median (range); d: represents value for whole cohort in study, not just patients screened for retinopathy, e: race assumed to match country of study, f: includes patients with obesity and overweight, TODAY, Treatment Options for Type 2 Diabetes in Adolescents and Youth Study.

The references in the table correspond to the reference sequence in the main paper, and not the references in this supplement.

#This number was reported as the number of observations, and it was not clear if these were unique patients. The calculation of the prevalence with the inclusion and exclusion of the study did not substantially alter the results.

eTable 9. Comparison of Meta-analysis Results Using Freeman-Tukey Double Arcsine Transformation and Generalized Linear Mixed-Effects Model With Confidence and Prediction Intervals

Parameter	Freeman-Tukey double arcsine transformation			Generalized linear mixed-effects model		
	Value	95%CI	95%PI	Value	95%CI	95%PI
DR prevalence	6.99%	3.75-11.00	0.00-33.99	5.25%	2.92-9.28	0.30-50.75
Study Design						
Cross-sectional	1.14%	0.05-3.07	0.00-7.10	1.93%	0.89-4.15	0.33-10.35
Retrospective cohort	11.29%	5.82-18.10	0.00-41.76	10.20%	5.44-18.30	1.04-55.22
Prospective cohort	6.52%	0.95-15.66	0.00-50.92	4.65%	1.58-12.90	0.11-68.20
DR severity						
Minimal-moderate NPDR	11.16%	1.52-27.21	0.00-79.59	8.54%	3.03-21.84	0.20-81.17
Severe NPDR	2.57%	0.58-5.69	N/A	2.36%	1.34-4.10	N/A
PDR	2.43%	0.04-7.47	0.00-42.93	1.52%	0.26-8.41	0.00-98.61
Macular edema	3.09%	1.64-4.91	N/A	3.31%	2.03-5.33	N/A
Method						
Fundoscopy	0.47%	0.00-3.30	0.00-5.88	1.48%	0.37-5.73	0.16-12.67
Seven-field stereoscopic fundus photography	13.55%	5.43-24.29	0.00-70.20	13.16%	6.16-25.90	0.52-81.26
Diabetes duration						
0-2.5 years	1.78%	0.25-4.20	0.00-8.90	2.34%	1.22-4.44	0.81-6.56
2.5-5 years	5.08%	1.04-11.22	0.00-32.90	5.96%	2.47-13.67	0.50-44.57
>5 years	28.83%	15.97-43.63	0.00-83.46	27.78%	16.29-43.20	2.96-82.90
Race						
White/Middle Eastern	24.07%	6.26-47.91	0.00-100.0	22.85%	5.41-60.52	0.00-100.0
Asian	13.31%	2.49-30.05	0.00-95.14	11.84%	3.42-33.72	0.04-97.88

CI: confidence interval, PI: prediction interval.

eTable 10. Risk of Bias of Included Studies

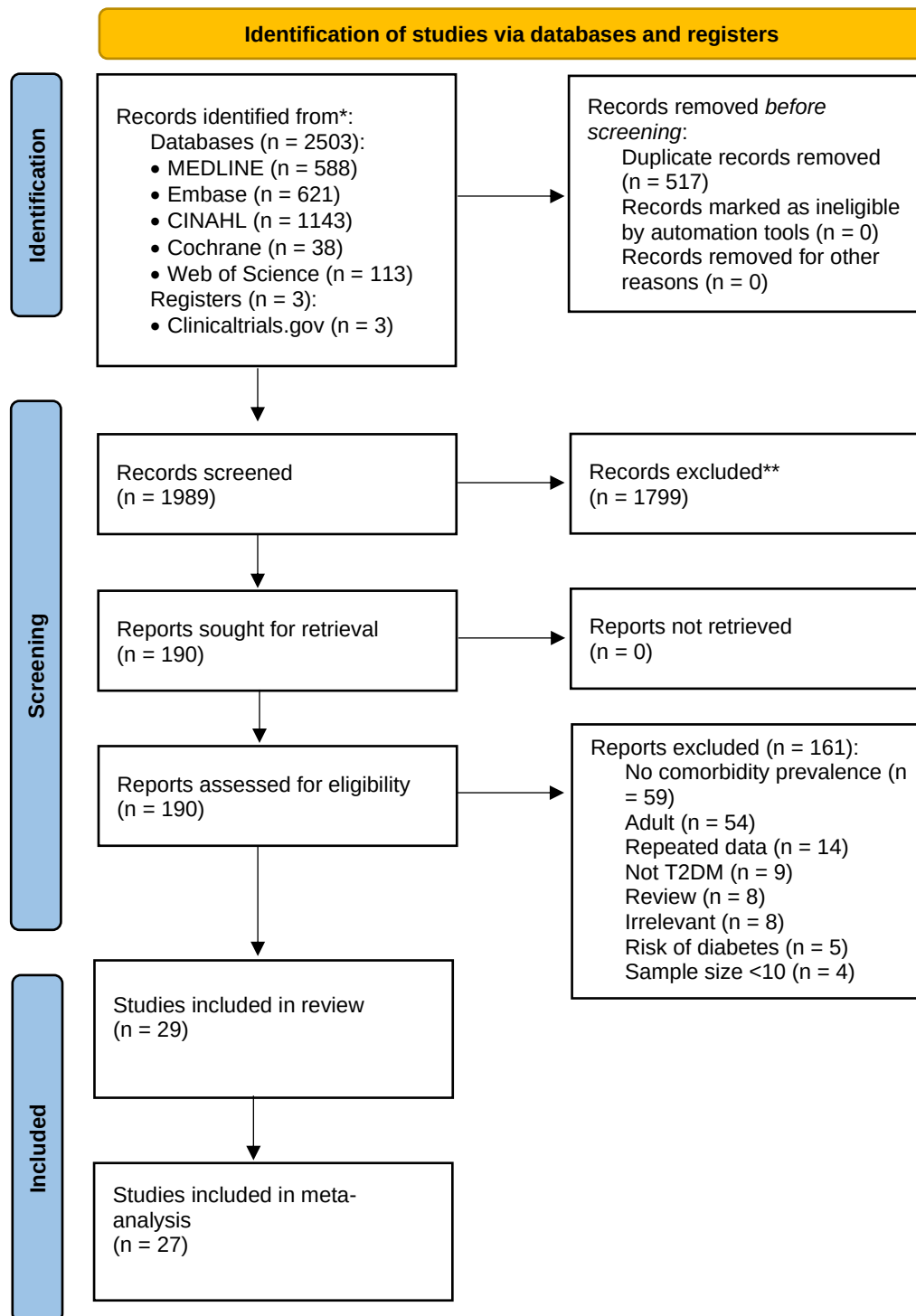
Author, year	External Validity Items				Internal Validity Items						Overall Score	Overall Risk of Bias	OCEBM Level of Evidence
	1	2	3	4	5	6	7	8	9	10			
Aulich, 2019 ²	0	1	0	1	1	1	1	1	1	1	8	moderate	3
Amutha, 2021 ³	0	1	1	0	1	1	1	1	1	1	8	moderate	1
Bai, 2022 ⁴	0	1	1	1	1	1	1	1	1	1	9	low	1
Dart, 2014 ⁵	0	1	1	1	1	1	1	1	1	1	8	moderate	1
Ek, 2020 ⁶	1	1	1	1	1	1	1	1	1	1	10	low	1
Eppens, 2006 (Australia) ⁷	0	1	1	0	1	1	1	1	1	1	8	moderate	1
Eppens, 2006 (Western Pacific) ⁸	1	0	1	1	1	0	0	1	1	1	7	moderate	2
Farah, 2006 ⁹	0	0	0	1	1	1	1	1	1	0	6	moderate	3
Ferm, 2021 ¹⁰	1	1	1	1	1	1	1	1	1	1	10	low	1
Geloneck, 2015 ¹¹	0	1	1	1	1	1	1	1	1	1	9	low	2
Jefferies, 2012 ¹²	0	1	1	1	1	0	0	1	1	1	7	moderate	1
Jensen, 2021 ¹³	1	1	0	0	1	1	1	1	1	1	8	moderate	3
Khalil, 2019 ¹⁴	0	1	1	0	1	1	1	1	1	1	8	moderate	2
Koziol, 2020 ¹⁵	1	1	1	1	1	1	1	0	1	1	9	low	1
Lee, 2007 ¹⁶	0	0	0	1	1	0	0	1	1	1	5	high	3
Newton, 2015 ¹⁷	0	1	1	0	1	1	1	1	1	1	8	moderate	2
Osman, 2013 ¹⁸	0	1	1	1	1	1	1	1	1	1	8	moderate	2
Preechasuk, 2022 ¹⁹	0	1	1	1	1	0	0	1	1	1	7	moderate	1
Porter, 2020 ²⁰	0	1	1	1	1	1	1	1	1	1	9	low	1
Ruhayel, 2010 ²¹	0	1	1	0	1	1	1	1	1	1	7	moderate	2
Schmidt, 2012 ²²	1	1	1	0	1	0	0	0	1	1	6	moderate	1
Scott, 2006 ²³	0	1	1	1	1	1	1	0	1	1	8	moderate	2
Shield, 2009 ²⁴	1	1	1	1	1	0	0	0	1	1	7	moderate	1
TODAY, 2013 ²⁵	1	1	0	0	1	1	1	1	1	1	8	moderate	3
TODAY2, 2022 ²⁶	1	1	0	0	1	1	1	1	1	1	8	moderate	3
Unnikrishnan, 2008 ²⁷	1	1	1	1	1	1	1	0	1	1	9	low	2
Wang, 2017 ²⁸	1	1	1	1	1	1	1	0	1	1	9	low	1
Yeh, 2017 ²⁹	0	1	1	0	1	1	1	1	1	1	8	moderate	2
Zuckerman Levin, 2022 ³⁰	1	1	1	0	1	0	0	1	1	1	7	moderate	1

Legend: 0: no, 1: yes, overall risk of bias: low (score >8), moderate (score 6-8), or high (score ≤5). Items scored: 1) Was the study's target population a close representation of the national population in relation to relevant variables, e.g., age, sex?; 2) Was the sampling frame a true or close representation of the target population?; 3) Was some form of random selection used to select the sample, OR, was a census undertaken?; 4) Was the likelihood of non-response bias minimal?; 5) Were data collected directly from the subjects (as opposed to a proxy)?; 6) Was an acceptable case definition used in the study?; 7) Had the study instrument that measured the parameter of interest (e.g., prevalence of comorbidity) been tested for reliability and validity (if necessary)?; 8) Was the same mode of data collection used for all subjects?; 9) Was the length of the shortest prevalence period for the parameter of interest appropriate?; 10) Were the numerator(s) and denominator(s) for the parameter of interest appropriate?

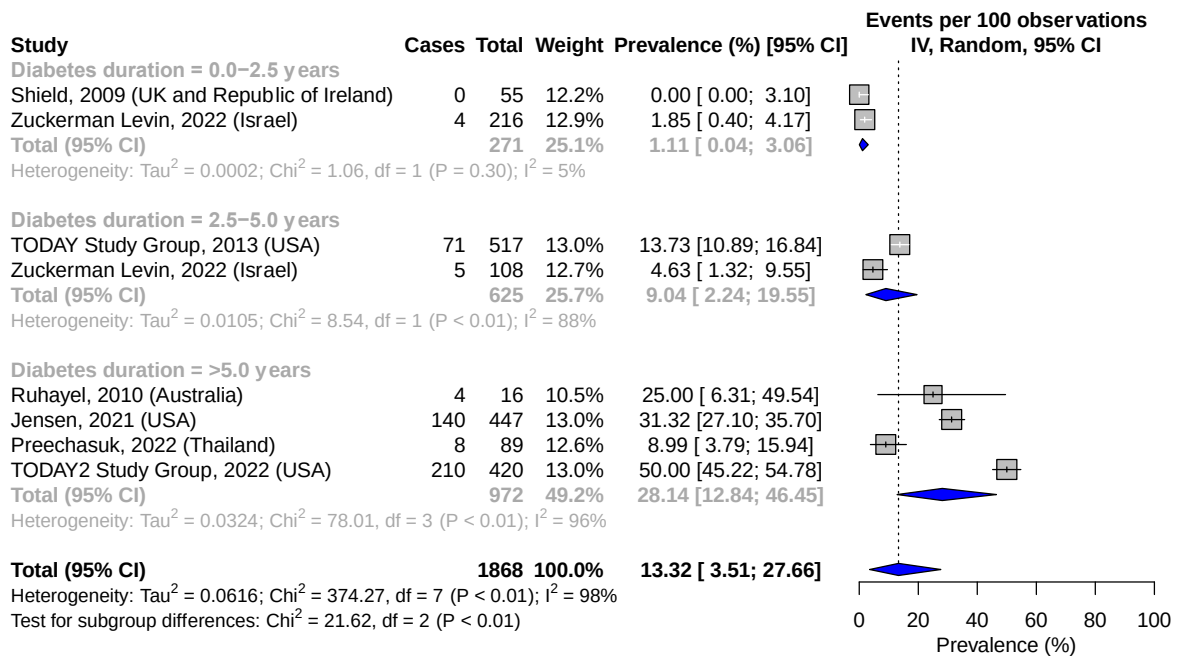
eTable 11. Results of Sensitivity Analysis

Studies removed	Pooled prevalence estimate (%, 95% CI)	Heterogeneity (I^2 , χ^2 P)
Conference abstracts ^{13,17,29}	5.94% (95% CI 3.24-9.28)	96%, <0.001
Different definition ^{4,5,8,12,15–24,28,30}	8.88% (95% CI 3.18-16.71)	96%, <0.001
Sample size <50 ^{2,7,9,11,14,16–18,21,27,29,35}	7.54% (95% CI 3.65-12.50)	98%, <0.001
Patients over 18 years old ^{3,4,6,12–16,18–20,23,25,27,28}	3.06% (95% CI 1.04-5.84)	83%, <0.001
High risk of bias ¹⁶	6.18% (95% CI 3.21-9.90)	97%, <0.001

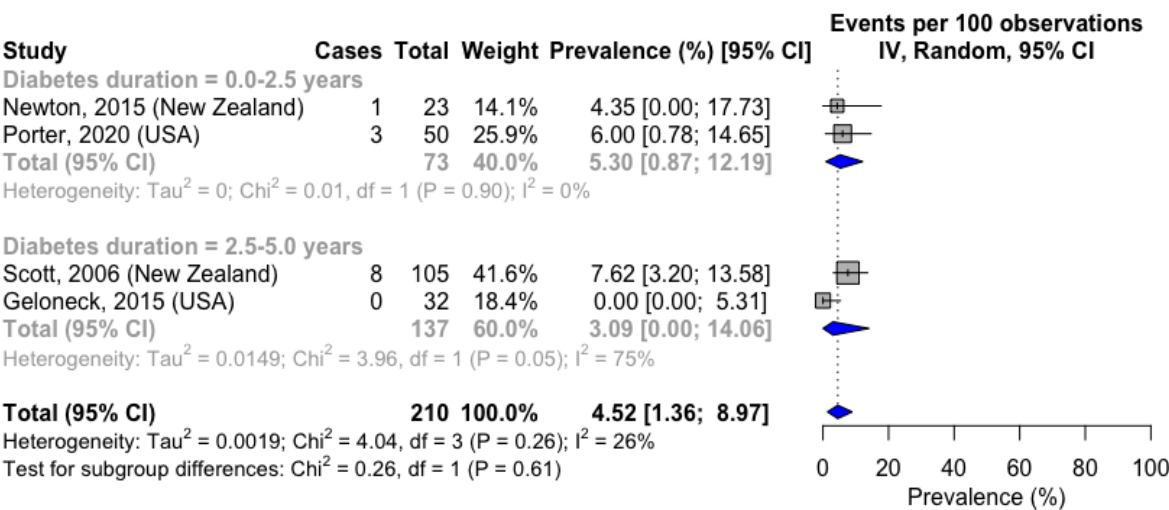
eFigure 1. PRISMA Flow Diagram Illustrating Study Selection



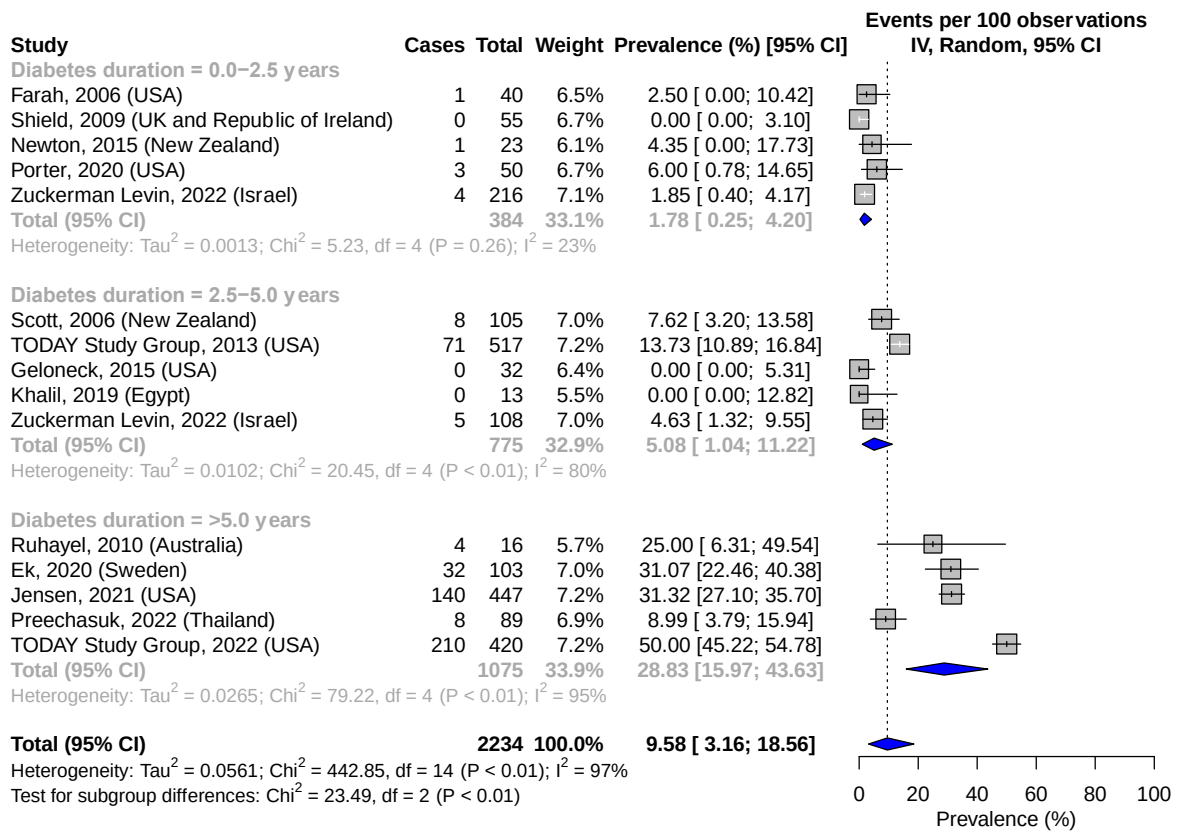
eFigure 2. Forest Plot of Prevalence of Diabetic Retinopathy in Pediatric Type 2 Diabetes by Diabetes Duration in Prospective Cohort Studies



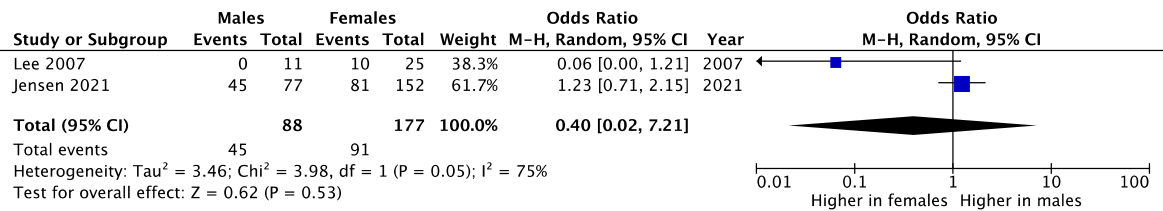
eFigure 3. Forest Plot of Prevalence of Diabetic Retinopathy in Pediatric Type 2 Diabetes by Diabetes Duration in Retrospective Cohort Studies



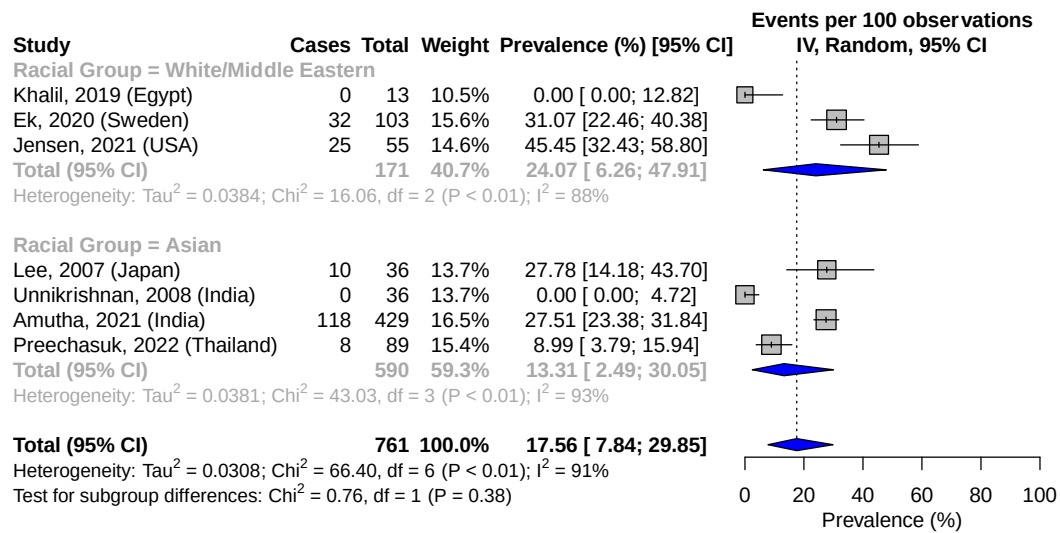
eFigure 4. Forest Plot of Prevalence of Diabetic Retinopathy in Pediatric Type 2 Diabetes by Diabetes Duration in All Studies



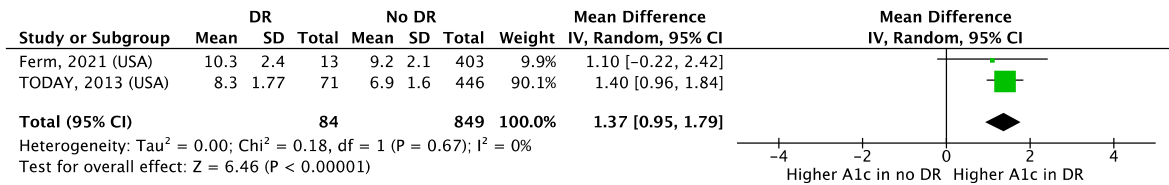
eFigure 5. Forest Plot of the Odds Ratio of Diabetic Retinopathy in Pediatric Type 2 Diabetes by Sex



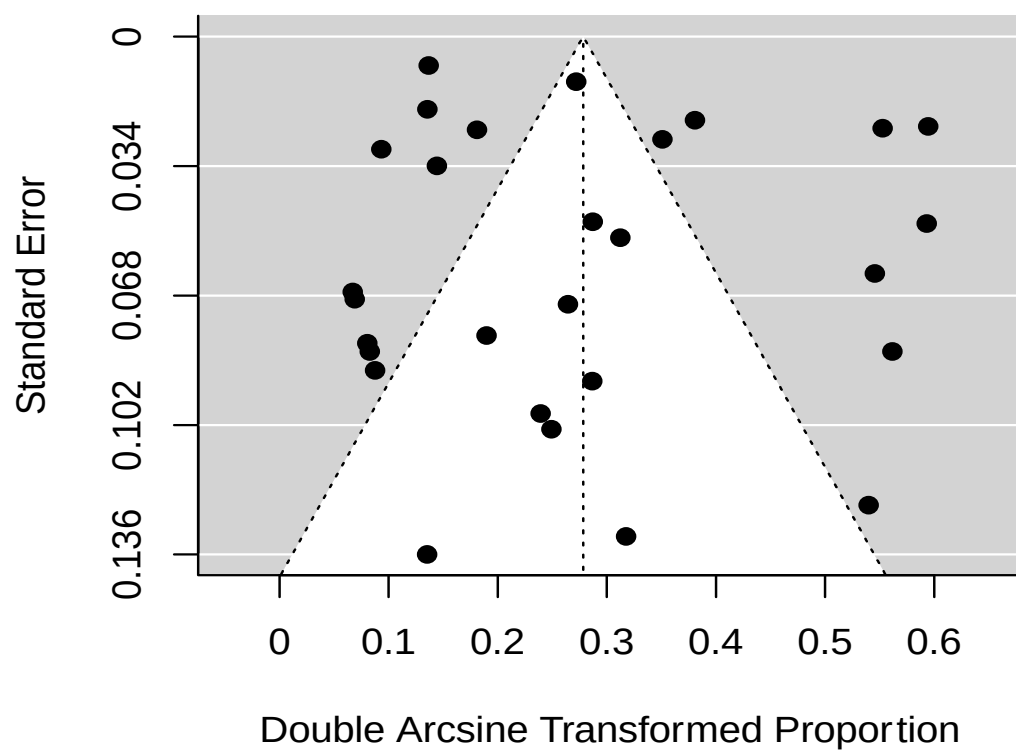
eFigure 6. Forest Plot Illustrating Prevalence of Diabetic Retinopathy in Pediatric Type 2 Diabetes by Race



eFigure 7. Forest Plot Showing Mean Difference in HbA_{1c} in Participants With vs Without Diabetic Retinopathy



eFigure 8. Funnel Plot Examining Publication Bias for Diabetic Retinopathy Prevalence Outcome



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