Web extra

Association between industry affiliation and position on rosiglitazone and cardiovascular risk: cross sectional systematic review *BMJ* 2010;340:c1344

Contents:

- A. Included articles
- B. Search strategy
- C. Disagreements between the two reviewers
- D. Prevalence and disclosures of conflicts of interest
- E. Sensitivity analyses

Main analysis (unique authors n=180)

Analysis using a combined scale (unique authors n=180)

Analysis using article as unit of analysis (n=202)

Analysis of focused studies (n=105)

Analysis of commentaries, letters, and editorials (n=92)

Analysis of articles published before FDA warning (n=27)

Analysis of articles published after FDA warning (n=175)

- F. Analysis of pioglitazone use
- G. PRISMA statement checklist
- H. References

As submitted by authors

A: Included articles

Author	Туре	Rosi/ Risk of MI ¹	Rosi Use ²	Pio Use ³	COI	COI stated	COI type⁴	Industry ⁵	FDA ⁶	Focus ⁷	Google ⁸
Acharya ¹	Review	Unfavorable	Neutral	No	No	Yes	0	None	After	Yes	No
Ajjan ²	Review	Neutral	Neutral	Yes	No	Yes	0	None	After	No	No
Ajjan ³	Review	Favorable	Favorable	No	Yes	Yes	4	Rosi,Pio	After	Yes	No
Alexander ⁴	Retrospective	Neutral	Neutral	No	No	Yes	0	None	After	No	No
Andraca ⁵	Guidelines	Neutral	Neutral	No	No	No	0	None	After	No	No
Anonymous ⁶	Review	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
Barnett ⁷	Review	Neutral	Favorable	Yes	Yes	Yes	5	Pio	After	Yes	No
Barry ⁸	Review	Neutral	Neutral	No	No	Yes	0	None	After	No	No
Baxter ⁹	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Betteridge ¹⁰	Review	Unfavorable	Neutral	Yes	Yes	Yes	3,4	All	After	Yes	No
Bijl ¹¹	Review	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
Bilous ¹²	Editorial	Favorable	Favorable	No	Yes	Yes	4	All	After	Yes	No
Blake ¹³	Review	Neutral	Neutral	No	Yes	Yes	4	Other	After	No	No
Bloomgarden ¹⁴	Review	Favorable	Neutral	Yes	Yes	No	4	All	After	No	Yes
Bloomgarden ¹⁵	Commentary	Favorable	Neutral	No	Yes	No	4	All	After	Yes	Yes
Bloomgarden ¹⁶	Commentary	Favorable	Favorable	No	Yes	No	4	All	After	No	Yes
Bolen ¹⁷	Review	Neutral	Neutral	No	No	Yes	0	None	After	No	No
Bolusani ¹⁸	Review	Unfavorable	Neutral	No	No	No	0	None	After	No	No
Bouhlel ¹⁹	Review	Neutral	Neutral	No	Yes	Yes	3	Other	After	No	Yes
Bouhlel ²⁰	Review	Neutral	Neutral	Yes	Yes	Yes	3,4	Rosi,Pio	After	No	No
Bourassa ²¹	Review	Neutral	Neutral	No	No	Yes	0	None	After	No	No
Boyle ²²	Commentary	Neutral	Neutral	No	Yes	No	4	Pio	After	Yes	Yes
Bracken ²³	Letter	Favorable	Neutral	No	Yes	Yes	4	Rosi	Before	Yes	No
Brown ²⁴	Review	Neutral	Neutral	Yes	Yes	Yes	1	Pio	After	No	No
Brunton ²⁵	Review	Neutral	Neutral	No	Yes	Yes	4	Other	After	No	No
Brunton ²⁶	Review	Neutral	Neutral	No	Yes	Yes	4	All	After	No	No
Burrill ²⁷	Review	Unfavorable	Unfavorable	Yes	No	No	0	None	Before	Yes	No
Calkin ²⁸	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Calvert ²⁹	Review	Unfavorable	Neutral	No	No	No	0	None	After	No	No
Cannon ³⁰	Review	Neutral	Neutral	No	No	No	3,4	None	Before	No	No
Casscells ³¹	Cross- sectional	Neutral	Neutral	No	No	Yes	0	None	After	Yes	No
Ceriello ³²	Review	Neutral	Neutral	Yes	Yes	Yes	1,3	Pio	After	No	No
Chiarelli ³³	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Chieh ³⁴	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Cleland ³⁵	Commentary	Unfavorable	Neutral	No	Yes	Yes	3	All	After	Yes	No
Cobitz ³⁶	Retrospective	Favorable	Neutral	No	Yes	Yes	2,4	Rosi	After	Yes	No
Crandall ³⁷	Review	Neutral	Neutral	No	Yes	Yes	4	Rosi,Other	After	No	No
Cubbon ³⁸	Review	Neutral	Neutral	Yes	Yes	Yes	4	All	After	No	No
Dagenais ³⁹	RCT	Neutral	Neutral	No	Yes	Yes	3,4	Rosi	After	No	No
Dahabreh ⁴⁰	Meta-analyses	Unfavorable	Neutral	No	No	No	0	None	After	Yes	No
Dandona ⁴¹	Commentary	Favorable	Favorable	No	Yes	Yes	3,4	All	After	Yes	Yes
Davis ⁴²	Editorial	Neutral	Neutral	No		Yes	4	All	After	No	No

Deeks ⁴³		Rosi/ Risk of MI ¹	Rosi Use ²	Pio Use³			COI		_	-	
			1 1001 000	036	COI	stated	type⁴	Industry ⁵	FDA ⁶	Focus ⁷	Google ⁸
D = M = vi = 44	Review	Neutral	Neutral	No	Yes	Yes	5	Rosi	After	Yes	No
DeMaria ⁴⁴	Editorial	Neutral	Neutral	No	No	No	0	None	Before	Yes	No
Diamond ⁴⁵	Meta-analyses	Favorable	Neutral	No	No	Yes	0	None	After	Yes	No
Diamond ⁴⁶	Commentary	Favorable	Neutral	No	No	No	0	None	Before	Yes	No
Doggrell ⁴⁷	Review	Unfavorable	Neutral	No	No	No	0	None	After	Yes	No
	Commentary	Neutral	Neutral	No	No	No	0	None	Before	Yes	No
Drummond ⁴⁹	Review	Neutral	Favorable	No	Yes	Yes	4	Rosi,Pio	Before	Yes	
Drzewoski ⁵⁰	Commentary	Neutral	Neutral	No	No	No	0	None	After	Yes	No
Duan ⁵¹	Review	Neutral	Neutral	No	No	Yes	0	None	After	No	No
Edwards ⁵²	Review	Neutral	Favorable	No	No	No	0	None	After	No	No
Erdmann ⁵³	Review	Neutral	Neutral	Yes	Yes	Yes	1,4	Pio	After	Yes	No
Eurich ⁵⁴	Review	Neutral	Neutral	No	No	Yes	0	None	After	No	No
Faich ⁵⁵	Review	Neutral	Neutral	No	Yes	Yes	4	Rosi,Pio	After	No	No
Fonseca ⁵⁶	Review	Neutral	Favorable	No	Yes	Yes	2,3,4	All	After	No	No
Fowler ⁵⁷	Review	Neutral	Neutral	No	Yes	Yes	4	Other	After	No	No
Fuster ⁵⁸	Editorial	Favorable	Neutral	No	Yes	Yes	2,4	Rosi	Before	Yes	No
Gabor ⁵⁹	Commentary	Neutral	Neutral	No	No	No	0	None	After	Yes	No
Gerrits ⁶⁰	Cohort	Unfavorable	Neutral	Yes	Yes	Yes	1	Pio	Before	Yes	No
Gerstein ⁶¹	Commentary	Favorable	Neutral	No	Yes	Yes	3,4	All	After	Yes	No
Gilbert ⁶²	Commentary	Unfavorable	Neutral	No	Yes	Yes	4	All	After	Yes	No
Giles ⁶³	RCT	Neutral	Favorable	Yes	Yes	Yes	1-4	Pio	After	No	No
Goldfine ⁶⁴	Commentary	Unfavorable	Neutral	No	No	Yes	0	None	After	Yes	No
Graber ⁶⁵	Review	Unfavorable	Unfavorable	No	No	Yes	0	None	After	No	No
Grant ⁶⁶	Commentary	Favorable	Neutral	No	Yes	Yes	4	All	Before	Yes	No
Guay ⁶⁷	Review	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
Gunter ⁶⁸	Commentary	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
Gysling ⁶⁹	Commentary	Neutral	Neutral	No	No	No	0	None	Before	Yes	No
Hakansson ⁷⁰	Commentary	Unfavorable	Neutral	No	No	No	0	None	After	Yes	No
Halse ⁷¹	Letter	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
Hanefeld ⁷²	Commentary	Neutral	Neutral	No	Yes	Yes	4	All	After	Yes	No
Hermansen ⁷³	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Hernandez ⁷⁴	Meta-analyses	Unfavorable	Neutral	No	No	No	0	None	After	Yes	No
	response	Neutral		No	No	No	0	None	After	Yes	No
76	Letter	Neutral	Favorable	No	No	No	0	None	Before	Yes	No
Hjelvin ⁷⁷	Commentary	Favorable	Favorable	No	Yes	No	2	Rosi	After	Yes	Yes
70	Commentary	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
70	Commentary	Neutral	Neutral	Yes	Yes	No	4	Pio	After	Yes	No
Horng ⁸⁰	Commentary	Unfavorable	Unfavorable	No	No	No	0	None	Before	Yes	No
	Editorial			No				None		No	No
92		Unfavorable	Unfavorable	Yes	Yes	Yes	4	Pio	After	Yes	No
00	Review	Neutral	Neutral	No				None	After	No	No
0.4	Review	Unfavorable	Neutral	No	No	No	0	None		No	No
9E	Commentary	Favorable	Neutral	No	Yes	Yes	3,4	All	After	No	Yes
00	Review	Favorable		No	Yes			Rosi,Pio		No	Yes
				No			0	None		No	No

Rosi= Rosiglitazone; Pio= Pioglitazone; COI= Conflict of interest; Other= other antihyperglycemic agent other than Rosi/Pio 1,2: See Table 1 for scale criteria 3: Did author strongly recommend use of Pio? 4:Nature of COI: 1 Funded 2 Employee 3 Grant 4 Consulting Advisory Board Honoraria Speaker Lecture Awards Travel Expenses Stock 5 Assistance 5:Type of pharmaceutical industry 6:Date of publication: before or after FDA black box warning 7:Written in response to Nissen/Home? 8:Google/PubMed/Scopus found additional conflict of interest

		Rosi/ Risk of		Pio			COI	-		_	
	Туре			Use ³							Google ⁸
	Letter			No						Yes	No
	Review	Neutral		No	No	Yes	0	None	After	No	No
-	Commentary	Neutral	Unfavorable	No	No	Yes	0	None	After	Yes	No
	Commentary	Favorable	Neutral	No	No	No	0	None	After	Yes	No
	Editorial	Neutral	Neutral	No	No	Yes	0	None	Before	Yes	No
	Commentary	Unfavorable	Neutral	No	No	No	0	None	After	Yes	No
	Review	Neutral	Favorable	No	Yes	Yes	3,4	All	After	Yes	No
Khanderia ⁹⁵ l	Letter	Favorable	Favorable	No	Yes	Yes	3,4	All	After	Yes	No
	Review	Favorable	Favorable	No	Yes	Yes	1,4	Rosi,Pio	After	Yes	No
Kiryluk ⁹⁷	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Koro ⁹⁸ (Case-control	Unfavorable	Neutral	No	Yes	Yes	1.2	Rosi	After	No	No
Krall ⁹⁹ (Commentary	Favorable	Favorable	No	Yes	No	2	Rosi	Before	Yes	No
Krentz ¹⁰⁰	Review	Neutral	Unfavorable	Yes	Yes	Yes	1,4	Rosi,Pio	After	No	No
Lago ¹⁰¹	Meta-analysis	Favorable	Neutral	No	Yes	Yes	3,4	Rosi,Pio	After	Yes	No
Lancet Editorials ¹⁰²	Editorial	Neutral	Favorable	No	No	No	0	None	After	Yes	No
	Meta-analysis	Unfavorable	Unfavorable	No	No	Yes	0	None	After	Yes	No
101	Letter	Neutral		No	No					No	No
105	Review	Unfavorable		No	Yes			All	After	Yes	No
100	Review			No	No				After	Yes	No
107	Commentary	Unfavorable		No				None	After	Yes	No
100	Review			No						No	No
100	Letter	Neutral		No			0			No	No
110	Commentary	Neutral		No			4	Other		No	No
444	Review	Neutral		No					Before		No
110	Review		Neutral	Yes						No	No
110	Commentary	Favorable		No					Before		No
114	Cohort	Favorable	Favorable	Yes						No	Yes
115	Review	Unfavorable	Unfavorable	Yes			0	None	After	Yes	No
110	Commentary	Neutral		No					After	Yes	No
447	Commentary			No				·		Yes	No
110	Guidelines			No	Yes					No	Yes
				No	Yes					No	No
100	Review			No			0	None		No	No
101	Review			No						No	No
	Cohort			No	Yes					No	No
	Review			No	Yes				Before		Yes
101	Review		Unfavorable	Yes	Yes					No	No
105	Commentary	Neutral		No	Yes				After	Yes	No
100	Review			No					After	Yes	No
107	Commentary			No						No	No
100	Commentary			No					After	Yes	No
											No
	Review	Neutral	Neutral	No	No	No	0	None	After	INO	INO
Merino ¹²⁹	Review Letter	Neutral Unfavorable		No No	No No			None None		No No	No

Author	Type	Rosi/ Risk of MI ¹	Rosi Use ²	Pio Use ³		COI stated	COI type ⁴	Industry ⁵	FDA ⁶	Focus ⁷	Google ⁸
Misbin ¹³²	Type		Neutral	No No			туре 0			No	_
Misra ¹³³	Commentary	Neutral		No	No No	No No	0	None	After Before		No No
Mizuno ¹³⁴	Commentary Review	Unfavorable Neutral		No	No No		0	None None		No	No
Mohan ¹³⁵							0				No
Monami ¹³⁶	Commentary Moto analyses	Neutral		No No				None All	Before	No	No
Mulrow ¹³⁷	Meta-analyses									Yes	No
Musini ¹³⁸	Commentary	Neutral		No No	No	Yes	0	None	After		No
Nathan ¹³⁹	Cuidalinas	Unfavorable Neutral		No	No	No	0	None	Before		No
Nathan ¹⁴⁰	Guidelines	Neutral	Unfavorable	Yes	Yes			All All		No	
	Guidelines	Neutral		No No	Yes	Yes	-,			No	No
Nathan ¹⁴¹	Commentary			No	Yes		0		Before		No
Nessim ¹⁴²	Commentary	Neutral		No	No	No	0	None	After	Yes	No
Nilsson ¹⁴³	Review	Neutral	Neutral	No	No	Yes	0	None		No	No
Odegard ¹⁴⁴	Review	Unfavorable		No	Yes	Yes	4	Other		No	No
Odom ¹⁴⁵	Commentary			No	No		0	None	After	Yes	No
Padwal ¹⁴⁶	Commentary			No	No		0	None	After	Yes	No
Pais ¹⁴⁷	Editorial	Unfavorable		No	No		0	None	After	Yes	No
Pasmantier ¹⁴⁸	Editorial	Neutral		No	No		0	None		No	No
Peter ¹⁴⁹	Review	Neutral		No	No		0	None		No	No
Phillipe ¹⁵⁰	Review	Neutral		No	Yes	Yes	4	Other	After	Yes	No
Pierce ¹⁵¹	Commentary		Neutral	No	No	No	0	None	After	Yes	No
Pignone ¹⁵²	Commentary	Unfavorable	Neutral	No	No	No	0	None	After	Yes	No
Psaty ¹⁵³	Editorial	Unfavorable	Neutral	No	No	Yes	0	None	Before		No
Psaty ¹⁵⁴	Editorial			No	No	Yes	0	None	Before		No
Remigereau ¹⁵⁵	Commentary	Unfavorable		No	No	Yes		None	After	Yes	No
Repas ¹⁵⁶	Review	Neutral	Neutral	No	Yes	Yes	4	All	After	No	No
Riccardi ¹⁵⁷	Editorial	Neutral	Neutral	No	No	No	0	None	After	No	No
Ripsin ¹⁵⁸	Review	Unfavorable	Neutral	No	No	Yes	0	None	After	No	No
Rizos ¹⁵⁹	Review	Unfavorable	Unfavorable	Yes	Yes	Yes	4	All	After	Yes	No
Robinson ¹⁶⁰	Review	Unfavorable	Unfavorable	Yes	Yes	No	3,4	All	After	No	Yes
Rohatgi ¹⁶¹	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Rosen ¹⁶²	Editorial	Unfavorable	Neutral	No	Yes	Yes	4	All	Before	No	No
Rottlaender ¹⁶³	Editorial	Neutral	Neutral	Yes	Yes	Yes	4	Pio	After	No	No
Rucker ¹⁶⁴	Review	Neutral	Neutral	No	No	Yes	0	None	After	No	No
Ryder ¹⁶⁵	Commentary	Unfavorable	Unfavorable	Yes	Yes	Yes	4	Rosi,Pio	After	No	No
Sarafidis ¹⁶⁶	Review	Neutral	Neutral	No	No	Yes	0	None	After	Yes	No
Scheen ¹⁶⁷	Editorial	Neutral	Favorable	No	Yes	Yes	4	All	After	No	No
Selvin ¹⁶⁸	Review	Unfavorable	Neutral	No	No	Yes	0	None	After	No	No
Shaw ¹⁶⁹	Editorial	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
Shenfield ¹⁷⁰	Editorial	Unfavorable	Unfavorable	No	No	Yes	0	None	After	Yes	No
Shuster ¹⁷¹	Meta-analyses	Unfavorable	Neutral	No	Yes	No	4	Other	After	Yes	No
Shuster ¹⁷²	Commentary	Unfavorable	Neutral	No	No	No	0	None	After	Yes	No
Silverberg ¹⁷³	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Singh ¹⁷⁴	Meta-analyses	Unfavorable		No	No		0	None	After	Yes	No
Singh ¹⁷⁵	Review			No	No	Yes	0	None	After	Yes	No
Singh ¹⁷⁶	Review	Unfavorable		No	No	Yes		None	After	Yes	No

A cottle and	T	Rosi/ Risk of MI ¹	Dani 11an2	Pio	001	COI	COI	J 5	ED 4 6	F 7	C = = = = 8
Author	Туре			Use ³			type ⁴	Industry ⁵			Google ⁸
Singh 177	Review	Unfavorable	Unfavorable	No	No	Yes	0	None	After	Yes	No
Sjoholm ¹⁷⁸	Commentary	Favorable	Neutral	No	Yes	Yes	4	All	After	Yes	No
Solomon ¹⁷⁹	Commentary	Neutral	Neutral	No	Yes	Yes	3,4	All	After	Yes	No
Stafylas ¹⁸⁰	Review	Neutral	Neutral	No	No	No	0	None	After	No	No
Steg ¹⁸¹	Commentary	Neutral	Favorable	No	Yes	Yes	4	All	After	No	No
Stockl ¹⁸²	case-control	Unfavorable	Neutral	No	No	Yes	0	None	After	Yes	No
Stolar ¹⁸³	Review	Favorable	Favorable	Yes	Yes	Yes	1,4	Rosi,Pio	After	No	No
Strahlman ¹⁸⁴	Editorial	Favorable	Favorable	No	Yes	Yes	2	Rosi	After	Yes	No
Strohmeyer ¹⁸⁵	Editorial	Favorable	Favorable	No	Yes	No	2	Rosi	After	Yes	Yes
Strohmeyer ¹⁸⁶	Editorial	Favorable	Favorable	No	Yes	No	2	Rosi	After	Yes	No
Stulc ¹⁸⁷	Commentary	Unfavorable	Unfavorable	No	No	No	0	None	After	No	No
Sulistio ¹⁸⁸	Review	Neutral	Unfavorable	Yes	Yes	Yes	4	All	After	No	No
Susman ¹⁸⁹	Editorial	Unfavorable	Unfavorable	No	No	No	0	None	After	No	No
Takano ¹⁹⁰	Review	Favorable	Neutral	Yes	Yes	Yes	1	Pio	After	No	No
Toth ¹⁹¹	Commentary	Favorable	Favorable	No	Yes	No	4	All	Before	Yes	No
Triplitt ¹⁹²	Review	Unfavorable	Unfavorable	Yes	No	No	0	None	After	No	No
Unger ¹⁹³	Review	Favorable	Favorable	No	Yes	No	4	All	After	No	Yes
Vaccaro ¹⁹⁴	Editorial	Neutral	Neutral	No	No	No	0	None	After	No	No
Virally ¹⁹⁵	Commentary	Neutral	Neutral	No	No	No	0	None	Before	No	No
Waksman ¹⁹⁶	Review	Neutral	Neutral	No	No	No	0	None	After	Yes	No
Wick-Urban ¹⁹⁷	Commentary	Unfavorable	Unfavorable	No	No	No	0	None	After	No	No
Wolffenbuttel ¹⁹⁸	Commentary	Neutral	Neutral	No	No	No	0	None	After	No	No
Woo ¹⁹⁹	Guidelines	Neutral	Favorable	No	Yes	Yes	4	All	After	No	No
Yeap ²⁰⁰	Review	Unfavorable	Unfavorable	Yes	Yes	Yes	1,4	All	After	Yes	No
Zarowitz ²⁰¹	Commentary	Unfavorable	Unfavorable	No	No	No	0	None	After	Yes	No
Zinn ²⁰²	Review	Favorable	Favorable	No	Yes	Yes	3,4	All	After	No	No

B. SEARCH STRATEGY (Discussed and approved by Pat Erwin, MLS, medical librarian)

Web of Science and SCOPUS were used to obtain all articles referencing either the Nissen meta-analysis or the RECORD trial. MEDLINE and PubMed were used to find all comments on the Nissen meta-analysis and the RECORD trial to double check the validity of our search strategy. Included studies had to comment on rosiglitazone and risk of myocardial infarction. Guidelines, meta-analyses, reviews, clinical trials, letters, commentaries, and editorials were included. 847 unique articles were initially retrieved. 643 were determined irrelevant by abstract or full text screening. 4 articles could not be obtained and were excluded; 7 articles were written by either Nissen or Home (author of the RECORD trial) and were excluded. 202 articles were included in the final analysis. 18 of the included studies were foreign and were translated prior to analysis.

C. DISAGREEMENTS BETWEEN THE TWO REVIEWERS

There were 41 disagreements between the 2 reviewers out of 404 unique assessments. In total there were 36 unique studies with disagreements. 25 disagreements were in the risk of MI with rosiglitazone arm: reviewer A changed 13 assessments and reviewer B changed 12 assessments after discussion and reevaluation. 16 disagreements were in the use of rosiglitazone arm where reviewer A changed 12 assessments and reviewer B changed 4 assessments.

Rosi Risk of MI		Rosi Use							
	RevA		RevA		RevA		RevA	RevA	
	Favorable	RevA Neutral	Unfavorable	Total	Favorable		Neutral	Unfavorable	Total
RevB Favorable	26	5	0	31	25		2	0	27
RevB Neutral	11	84	5	100	4		120	8	132
RevB Unfavorable	1	2	68	71	2		0	41	43
Total	38	91	73	202	31		122	49	202

Bolded values represent disagreements RevA, B: reviewer A and reviewer B

Using all data, N=202

D. PREVALENCE AND DISCLOSURE OF CONFLICTS OF INTEREST

	N	%
Total # of studies with financial conflicts of interest • # with COI disclosed	90 69	45% 77%
# with COI not disclosed	21	23%
 # without COI statement 	(18)	(20%)
 # with inaccurate COI statement 	(3)	(3%)
Total # of studies with COI statement	108	53%

E. Sensitivity analyses

Analysis using Stelfox's combined scale (unique authors n=180)

	Favorabl e (n=42)			utral =70)		avorab (n=68)	Rate ratio (95% CI)
Any							3.00 (2.04 to
affiliation	37	88%	22	31%	20	29%	4.40)
Rosi							3.65 (2.31 to
affiliation	33	79%	12	17%	15	22%	5.77)
Pio							3.39 (2.17 to
affiliation	28	67%	15	21%	16	24%	5.31)
No affiliation	5	12%	48	69%	48	71%	

Analysis using article as unit of analysis (n=202)

Risk of MI

	Favorabl e (n=35)		Neutral (n=95)			avorab (n=72)	Rate ratio (95% CI)
Any							3.66 (2.42 to
affiliation	32	91%	40	42%	18	25%	5.53)
Rosi							4.69 (2.84 to
affiliation	30	86%	25	26%	13	18%	7.72)
Pio							4.54 (2.73 to
affiliation	22	63%	31	33%	13	18%	7.55)
No affiliation	3	9%	55	58%	54	75%	-

Rosi use

	Favorabl e (n=29)		Neutral (n=129)		Unfavorab le (n=44)		Rate ratio (95% CI)
Any							3.59 (2.12 to
affiliation	26	90%	53	41%	11	25%	6.07)
Rosi							3.82 (2,19 to
affiliation	24	83%	34	26%	10	23%	6.69)
Pio							3.76 (2.14 to
affiliation	21	72%	35	27%	10	23%	6.61)
No affiliation	3	10%	76	59%	33	75%	_

Combined Scale

	Favorabl e (n=48)		Neutral (n=77)			avorab (n=77)	Rate ratio (95% CI)
Any							3.21 (2.19 to
affiliation	42	88%	27	35%	21	27%	4.69)
Rosi							3.88 (2.48 to
affiliation	38	79%	14	18%	16	21%	6.08)
Pio							3.79 (2.41 to
affiliation	32	67%	18	23%	16	21%	5.96)
No affiliation	6	13%	50	65%	56	73%	<u> </u>

Analysis of focused studies (n=105)

Prevalence and disclosure of COI

% of studies with industry affiliation 52% % of studies with COI statement 42%

Risk of MI

	Favorabl e (n=25)		Neutral (n=29)		Unfavorab le (n=51)		Rate ratio (95% CI)
Any							4.49 (2.53 to
Affiliation	22	88%	12	41%	10	20%	7.97)
Rosi							6.00 (2.98 to
Affiliation	21	84%	7	24%	7	14%	12.10)
Pio							4.98 (2.53 to
Affiliation	13	52%	17	59%	8	16%	9.79)
No Affiliation	3	12%	17	59%	41	80%	

Rosi Use

	Favorabl e (n=16)		Neutral (n=58)		Unfavorab le (n=31)		Rate ratio (95% CI)		
Any			,				5.43 (2.38 to		
affiliation	14	14 88%		43%	5	16%	12.36)		
Rosi							6.5 (2.56 to		
affiliation	13	81%	18	31%	4	13%	16.53)		
Pio							6.14 (2.36 to		
affiliation	9 56%		18	31%	4	13%	15.93)		
No affiliation	2	13%	33	57%	26 84%		_		

Combined Scale

	Favorabl e (n=30)		Neutral (n=22)		Unfavorab le (n=53)		Rate ratio (95% CI)
Any							4.42 (2.47 to
affiliation	25	25 83%		9 41%		19%	7.89)
Rosi							5.87 (2.89 to
affiliation	23	77%	5	5 23%		13%	11.91)
Pio							4.86 (2.46 to
affiliation	16 53%		7	32%	8	15%	9.58)
No affiliation	5	5 17%		59%	43	81%	-

Analysis of commentaries, letters, and editorials (n=92)

Prevalence and disclosure of COI

% of studies with industry affiliation 40%

% of studies with COI statement 43%

Risk of MI

	Favorabl e (n=21)		Neutral (n=36)		Unfavorab le (n=35)		Rate ratio (95% CI)	
Any								
Affiliation	19 90%		14	39%	6	12%	5.28 (2.51 to 11.08)	
Rosi								
Affiliation	19	90%	9	25%	5	14%	6.15 (2.71 to 13.99)	
Pio								
Affiliation	12	57%	13 36%		5	14%	5.83 (2.52 to 13.47)	
No Affiliation	2	10%	22	61%	29	57%	<u> </u>	

Rosi Use

	Favorabl		Neutral		Unfavorab		
Manufacturer	e (r	า=15)	(n=54)		le (n=23)		Rate ratio (95% CI)
Any							
affiliation	13	87%	20	37%	4	17%	4.98 (2.00 to 12.41)
Rosi							C 20 (2.15 to 10.20)
affiliation	12	80%	18	33%	3	13%	6.29 (2.15 to 18.38)
Pio							
affiliation	8	53%	19	35%	3	13%	5.87 (1.96 to 17.56)
No affiliation	2	13%	34	63%	19	83%	_

Analysis of articles published before FDA warning (n=27)

Prevalence and disclosure of COI

% of studies with industry affiliation 41%

% of studies with COI statement 38%

Risk of MI

	Favorabl e (n=8)		Neutral (n=10)		Unfavorab le (n=9)		Rate ratio (95% CI)
Any							
affiliation	7	88%	1	10%	3	33%	2.63 (1.00 to 6.86)
Rosi							
affiliation	6	75%	1	10%	2	22%	3.43 (0.99 to 11.82)
Pio							
affiliation	3 38%		1	10%	2	22%	3.00 (0.80 to 11.31)
No affiliation	1	13%	9	90%	6	67%	_

Rosi Use

	Favorabl e (n=4)		Neutral (n=17)		Unfavorab le (n=6)		Rate ratio (95% CI)
Any							
affiliation	3	75%	7	41%	1	17%	4.50 (0.69 to 29.39)
Rosi							
affiliation	3	75%	5	5 29%		17%	4.50 (0.69 to 29.39)
Pio							
affiliation	2 50%		4	24%	0	0%	∞
No affiliation	1	25%	10	59%	5	83%	_

Analysis of articles published after FDA warning (n=175)

Prevalence and disclosure of COI

% of studies with industry affiliation 45%

% of studies with COI statement 55%

Risk of MI

	Favorabl e (n=27)		Neutral (n=85)		Unfavorab le (n=63)		Rate ratio (95% CI)	
Any								
affiliation	25	93%	39	39 46%		24%	3.89 (2.47 to 6.13)	
Rosi								
affiliation	24	89%	24	24 28%		17%	4.95 (2.87 to 8.53)	
Pio								
affiliation	19 70%		30	35%	11	17%	4.85 (2.80 to 8.42)	
No affiliation	2	7%	46	46 54%		76%	_	

Rosi Use

	Favorabl e (n=25)		Neutral (n=112)		Unfavorab le (n=38)		Rate ratio (95% CI)	
Any		-						
affiliation	23	23 92%		41%	10 26%		3.50 (2.03 to 6.03)	
Rosi								
affiliation	21	84%	29 26%		9	24%	3.75 (2.10 to 6.72)	
Pio								
affiliation	19 76%		31	28%	10	26%	3.44 (1.98 to 5.96)	
No affiliation	2	8%	66	59%	28	74%	_	

F. Pioglitazone analysis

PIOGLITAZONE	Tot al	Pio Affiliati on	Rosi and Pio Affiliation	No affiliations
# of articles				
strongly		25		
recommending pio	29	(86%)	14 (48%)	4 (14%)

55/66 of Pio affiliates also had affiliations with rosi
43/53 of manufacturers of other antihyperglycemic agents
also had affiliations with rosi

G. PRISMA statement checklist

Section/topic	#	Checklist item	Reported on page #
TITLE			
Title	1	Identify the report as a systematic review, meta-analysis, or both.	1
ABSTRACT			
Structured summary	2	Provide a structured summary including, as applicable: background; objectives; data sources; study eligibility criteria, participants, and interventions; study appraisal and synthesis methods; results; limitations; conclusions and implications of key findings; systematic review registration number.	2
INTRODUCTIO	N		
Rationale	3	Describe the rationale for the review in the context of what is already known.	3
Objectives	4	Provide an explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study design (PICOS).	4
METHODS			
Protocol and registration	5	Indicate if a review protocol exists, if and where it can be accessed (e.g., Web address), and, if available, provide registration information including registration number.	4
Eligibility criteria	6	Specify study characteristics (e.g., PICOS, length of follow-up) and report characteristics (e.g., years considered, language, publication status) used as criteria for eligibility, giving rationale.	4
Information sources	7	Describe all information sources (e.g., databases with dates of coverage, contact with study authors to identify additional studies) in the search and date last searched.	4
Search	8	Present full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	A6
Study selection	9	State the process for selecting studies (i.e., screening, eligibility, included in systematic review, and, if applicable, included in the meta-analysis).	A6
Data collection process	10	Describe method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	A6
Data items	11	List and define all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	4-6
Risk of bias in individual studies	12	Describe methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and how this information is to be used in any data synthesis.	
Summary measures	13	State the principal summary measures (e.g., risk ratio, difference in means).	6

Section/topic	#	Checklist item	Reported on page #
Synthesis of results	14	Describe the methods of handling data and combining results of studies, if done, including measures of consistency (e.g., I^2) for each meta-analysis.	
Risk of bias across studies	15	Specify any assessment of risk of bias that may affect the cumulative evidence (e.g., publication bias, selective reporting within studies).	
Additional analyses	16	Describe methods of additional analyses (e.g., sensitivity or subgroup analyses, meta-regression), if done, indicating which were prespecified.	6-7
RESULTS			
Study selection	17	Give numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally with a flow diagram.	A6
Study characteristics	18	For each study, present characteristics for which data were extracted (e.g., study size, PICOS, follow-up period) and provide the citations.	7
Risk of bias within studies	19	Present data on risk of bias of each study and, if available, any outcome level assessment (see item 12).	
Results of individual studies	20	For all outcomes considered (benefits or harms), present, for each study: (a) simple summary data for each intervention group (b) effect estimates and confidence intervals, ideally with a forest plot.	
Synthesis of results	21	Present results of each meta-analysis done, including confidence intervals and measures of consistency.	
Risk of bias across studies	22	Present results of any assessment of risk of bias across studies (see Item 15).	
Additional analysis	23	Give results of additional analyses, if done (e.g., sensitivity or subgroup analyses, meta-regression [see Item 16]).	9-10
DISCUSSION			
Summary of evidence	24	Summarize the main findings including the strength of evidence for each main outcome; consider their relevance to key groups (e.g., healthcare providers, users, and policy makers).	11
Limitations	25	Discuss limitations at study and outcome level (e.g., risk of bias), and at review-level (e.g., incomplete retrieval of identified research, reporting bias).	11-12
Conclusions	26	Provide a general interpretation of the results in the context of other evidence, and implications for future research.	13
FUNDING			
Funding	27	Describe sources of funding for the systematic review and other support (e.g., supply of data); role of funders for the systematic review.	1

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