

## Supplementary File

**Table S1.** Characteristics of all included studies

References	Study design	Country	Sample size (PCOS/controls)	Mean age	BMI (PCOS/controls)	PCOS criteria	NAFLD diagnosis	NAFLD cases (PCOS/controls)	Results (OR, 95%CI)
Cerda et al. 2007 (19)	Prospective	Chile	41/31	26.1	30.9/29.3	Rotterdam	Ultrasound	17/6	2.95 (0.98-9.06)
Serpoi et al. 2007 (20)	Prospective	Romania	44/20	30.0	27.3/26.9	Rotterdam	Ultrasound	24/5	3.60 (1.18-10.35)
Gutierrez-Grobe et al. 2010 (21)	Prospective	Mexico	50/90	40.7	25.6/26.6	NR	Ultrasound	19/31	1.17 (0.58-2.42)
Vassilatou et al. 2010 (22)	Prospective	Greece	57/60	27.3	28.3/27.1		Ultrasound	21/12	2.33 (0.99-5.11)
Hossain et al. 2011 (23)	Retrospective	USA	34/32	38.5	45.4/44.6	Rotterdam	Ultrasound	11/5	2.58 (0.78-7.65)
Lerchbaum et al. 2011 (24)	Prospective	Austria	611/139	27.6	24.5/24.2	NIH	Fatty liver index	140/23	1.50 (0.94-2.45)
Faisal et al. 2012 (25)	Prospective	Egypt	53/32	25.9	32.4/28.7	Rotterdam	Ultrasound	46/4	46.0 (12.79 - 140.0)
Zueff et al. 2012 (26)	Prospective	Brazil	45/45	31.7	34.8/34.6	Rotterdam	Ultrasound	33/21	3.14 (1.32-7.50)
Karoli et al. 2013 (27)	Prospective	India	54/55	28.1	27.2/26.8	Rotterdam	Ultrasound	36/14	5.86 (2.54-12.69)
Qu et al. 2013 (28)	Prospective	China	602/588	NR	NR	Rotterdam	Ultrasound	198/109	2.15 (1.65-2.82)
Tarantino et al. 2013 (29)	Prospective	Italy	40/20	27.2	28.1/22.1	Rotterdam	Ultrasound	26/0	74.93 (4.22-1331.6)

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Kahal et al. 2014 (30)	Prospective	UK	19/17	33.1	37.9/36.5	Rotterdam	Ultrasound	7/0	21.0 (1.10-402.5)
Bohdanowicz-Pawlak et al. 2014 (31)	Prospective	Poland	184/125	NR	NR	Rotterdam	Ultrasound	106/62	1.38 (0.87-2.20)
Kuliczowska Plaksej et al. 2014 (32)	Prospective	Poland	173/125	26.0	26.7/23.9	Rotterdam	Ultrasound	92/40	2.41 (1.51-3.84)
Prasad et al. 2014 (33)	Prospective	India	162/165	27.7	27.6/26.9	Rotterdam	Ultrasound	106/38	6.33 (3.84-10.26)
Caglar et al. 2015 (34)	Prospective	Turkey	34/21	26.0	22.0/22.1	Rotterdam	Ultrasound	15/2	7.50 (1.74-35.51)
Romanowski et al. 2015 (35)	Prospective	Brazil	101/30	28.4	28.5/26.1	AES	Ultrasound	24/1	8.73 (1.41-93.24)
Ayonrinde et al. 2016 (36)	Prospective	Austria	32/167	17.0	26.1/22.6	NIH	Ultrasound	12/25	3.41 (1.46-7.51)
Macut et al. 2016 (37)	Prospective	Serbia, Greece	600/125	26.6	30.7/29.4	Rotterdam	NAFLD liver fat score	304/42	2.03 (1.35-3.04)
Cai et al. 2017 (38)	Prospective	China	400/100	25.9	25.7/24.8	Rotterdam	Ultrasound	225/38	2.10 (1.32-3.25)
Kim et al. 2017 (39)	Prospective	Korea	275/892	34.0	20.3/19.9	Rotterdam	Ultrasound	15/25	2.00 (1.06-3.80)
Mehrabian et al. 2017 (40)	Retrospective	Iran	75/75	NR	24.7/24.6	Rotterdam	Ultrasound	29/14	2.75 (1.30-5.53)
Petta et al. 2017 (41)	Prospective	Italy	202/101	33.8	25.7/23.9	Rotterdam	Hepatic steatosis index	139/34	4.35 (2.59-7.11)
Zhang et al. 2018 (42)	Prospective	China	188/65	27.1	25.2/24.2	Rotterdam	Ultrasound	84/16	2.47 (1.33-4.75)

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Vassilatou et al. 2018 (43)	Prospective	Greece	145/145	29.8	31.8/30.5	Rotterdam	Ultrasound	78/54	1.96 (1.22-3.13)
Kumarendran et al. 2018	Retrospective	UK	63210/121064	30.7	NR	NR	NR	274/222	2.37 (1.99-2.83)
Tantanavipas et al. 2019 (17)	Prospective	Thailand	42/21	28.9	27.1/25.8	Rotterdam	Ultrasound	22/9	1.47 (0.54-4.32)
Asfari et al. 2020 (44)	Retrospective	USA	77415/50707939	54.8	NR	NR	NR	NR	4.30 (4.11-4.50)
Sarkar et al. 2020 (45)	Retrospective	USA	37/65	34.9	38.2/33.1	Rotterdam	Biopsy	28/43	1.59 (0.64-3.71)
Taranto et al. 2020 (16)	Prospective	Brazil	87/40	35.9	34.7/33.8	Rotterdam	Ultrasound	67/21	3.03 (1.33-6.47)
Salva-Pastor et al. 2020 (15)	Prospective	Mexico	49/49	NR	NR	Rotterdam	Transient elastography	34/17	4.26 (1.83-9.93)
Chakraborty et al. 2020 (14)	Prospective	India	70/60	20.7	25.1/22.3	Rotterdam	Ultrasound	27/4	8.79 (2.88-24.41)

AES — Androgen Excess Society; BMI — body mass index; CI — confidence interval; NAFLD — non-alcoholic fatty liver disease; NIH — National Institute of Health; NR — not reported; OR — odds ratio; PCOS — polycystic ovary syndrome; UK — United Kingdom; USA — United States

**Figure S1.** Flow of information through the different stages of a meta-analysis. CI — confidence interval; OR — odds ratio

