

Supplementary Table 1. Summary of included articles

Study	Country	Study duration	Diagnosis method	Sample size			Age (years)		Gender male (%)		Quality assessment
				Total	NAFLD	Control	NAFLD	Control	NAFLD	Control	
Mori et al. ⁶⁸ (2022)	Japan	2016–2019	Ultrasound	676	267	409	67.00	70.67	68.90	59.90	8
Taharbout et al. ³¹ (2021)	Algeria	2010–2016	Ultrasound	426	213	213	48.50	48.50	90.60	96.70	8
Wang et al. ³⁶ (2021)	China	2010–2016	Ultrasound	8,451	2,557	5,894	57.80	57.90	31.80	31.40	9
Xu et al. ³⁷ (2021)	China	2006–2016	Ultrasound	79,905	24,874	55,031	52.14	50.75	77.80	74.30	9
Assem et al. ⁴¹ (2021)	Egypt	2020–2020	Ultrasound	100	50	50	53.00	54.00	45.00	45.00	8
Omar et al. ⁶⁹ (2020)	Malaysia	2015–2016	Ultrasound	150	107	43	59.00	57.00	77.00	74.00	8
Rampally et al. ⁴⁷ (2020)	India	2020–2020	Ultrasound	90	45	45	44.87	-	57.80	62.20	7
Kemaloglu and Kemalolu ⁸⁹ (2019)	Turkey	2010–2011	Ultrasound	153	103	50	48.92	45.86	37.90	30.00	8
Mohammadzadeh et al. ⁵⁶ (2019)	Iran	2014–2016	Ultrasound	300	150	150	49.90	52.50	65.30	57.30	8
Oni et al. ⁹⁴ (2019)	USA	2000–2002	Computed tomography	4,123	729	3,394	61.00	63.00	47.00	44.00	8
Tu et al. ³⁵ (2019)	China	2010–2016	Ultrasound	128	34	94	62.40	63.60	76.50	68.10	7
Zheng et al. ³⁹ (2018)	China	2010–2011	Ultrasound	4,112	1,571	2,541	56.20	55.60	64.40	35.60	8
Fadaei et al. ⁵⁰ (2019)	Iran	2018–2018	Ultrasound	82	49	33	50.67	52.00	-	-	8
Tan et al. ⁷⁰ (2018)	Malaysia	2015–2016	Ultrasound	251	144	107	49.10	44.40	84.00	60.70	7
Cetindagli et al. ⁸⁶ (2017)	Turkey	2015–2015	Biopsy & Ultrasound	130	93	37	34.49	33.76	92.50	91.50	8
Gill et al. ⁹³ (2017)	USA	2004–2007	Ultrasound	407	208	199	49.63	50.36	31.70	33.20	7
Li et al. ⁵ (2018)	China	2014–2016	Ultrasound	1,007	320	687	54.20	54.00	0.00	0.00	8
Rasool et al. ⁴⁸ (2017)	India	2017–2017	Ultrasound	300	200	100	42.30	41.38	43.00	40.00	8
Serra-Planas et al. ⁷⁹ (2017)	Spain	2010–2012	Ultrasound	100	12	88	43.30	38.90	66.70	52.30	8
Guo et al. ³² (2017)	China	2005–2014	Ultrasound	8,571	4,340	4,231	57.40	61.90	54.60	55.90	8
Fracanzani et al. ⁵⁹ (2016)	Spain	2002–2014	Ultrasound	273	91	182	61.00	62.00	-	-	9
Stolic et al. ⁷² (2016)	Serbia	2016–2016	Ultrasound	72	37	35	-	-	51.40	62.90	8
Zhang et al. ³⁸ (2016)	China	2005–2014	Ultrasound	722	123	599	47.40	46.00	52.80	51.10	8
Mantovani et al. ⁶⁰ (2016)	Italy	1999–2001	Ultrasound	286	150	136	47.50	38.80	48.00	36.00	9
Hong et al. ⁷³ (2016)	South Korea	2012–2013	Ultrasound	955	342	613	52.33	50.33	48.80	42.10	8
Hanafi et al. ⁵¹ (2015)	Iran	2015–2015	Ultrasound	85	30	55	-	-	53.30	45.50	8
Moon et al. ⁷⁸ (2015)	South Korea	2009–2009	Ultrasound	755	382	373	51.80	51.70	100.00	100.00	7
Ozturk et al. ⁹² (2015)	Turkey	2013–2014	Biopsy	102	61	41	32.74	31.80	100.00	100.00	8

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Silaghi et al. ⁷¹ (2015)	Romania	2013–2014	Ultrasound	336	289	47	55.70	59.60	-	-	7
Ayaz et al. ⁸³ (2014)	Turkey	2014–2014	Ultrasound	90	60	30	44.50	40.00	36.70	26.70	8
Kim et al. ⁷⁷ (2014)	South Korea	2014–2014	Ultrasound	4,437	3,226	1,211	58.08	57.33	47.20	41.30	7
Mikolasevic et al. ⁴⁰ (2014)	Croatia	2014–2014	Ultrasound	71	38	33	56.70	54.70	44.70	36.40	8
Nahandi et al. ⁵⁷ (2014)	Iran	2008–2010	Ultrasound	151	99	52	46.67	43.10	33.30	40.20	8
Arinc et al. ⁸² (2013)	Turkey	2010–2012	Biopsy	80	50	30	42.00	41.00	54.00	63.30	8
Lankarani et al. ⁵² (2013)	Iran	2013–2013	Ultrasound	580	290	290	46.40	45.40	44.80	60.00	8
Tziomalos et al. ⁴³ (2013)	Greece	2010–2012	Ultrasound	415	32	383	77.40	78.80	40.00	37.10	7
ElAzeem et al. ⁴² (2013)	Egypt	2009–2010	Ultrasound	747	268	479	52.10	51.11	49.60	48.60	8
Mishra et al. ⁴⁶ (2013)	India	2012–2012	Ultrasound	645	101	544	31.60	27.10	100.00	100.00	7
Başar et al. ⁸⁵ (2013)	Turkey	2012–2012	Ultrasound	69	34	35	42.10	41.30	33.30	39.40	7
Colak et al. ⁸⁷ (2012)	Turkey	2012–2012	Ultrasound	72	51	21	42.81	40.50	51.00	52.40	8
Kucukazman et al. ⁹¹ (2013)	Turkey	2012–2012	Ultrasound	161	117	44	45.80	45.40	44.40	31.80	8
Colak et al. ⁸⁷ (2012)	Turkey	2012–2012	Biopsy	87	57	30	44.20	42.70	45.60	46.70	8
Huang et al. ³³ (2012)	China	2010–2010	Ultrasound	8,632	2,590	6,042	58.50	58.50	31.40	30.90	8
Kang et al. ⁷⁴ (2012)	South Korea	2010–2010	Ultrasound	633	320	313	53.50	52.80	60.00	47.00	8
Mohammadi et al. ⁵⁴ (2012)	Iran	2012–2012	Ultrasound	335	250	85	46.50	44.80	55.60	54.10	8
Thakur et al. ⁴⁹ (2012)	India	2008–2010	Ultrasound	80	40	40	42.10	41.90	67.50	67.50	7
Neri et al. ⁶¹ (2011)	Italy	2004–2009	Ultrasound	150	90	60	49.29	-	-	-	7
Agarwal et al. ⁴⁵ (2011)	India	2010–2010	Ultrasound	124	71	53	57.00	61.00	-	-	8
Kim et al. ⁷⁶ (2011)	South Korea	2006–2008	Ultrasound	145	48	97	50.30	52.00	66.70	46.40	8
Mohammadi et al. ⁵³ (2011)	Iran	2011–2011	Ultrasound	335	250	85	46.58	44.85	55.60	54.10	8
Mohammadi et al. ⁵³ (2011)	Iran	2011–2011	Ultrasound	149	84	65	33.71	38.38	52.40	53.80	8
Salvi et al. ⁶³ (2010)	Italy	2010–2010	Ultrasound	220	92	128	50.70	49.30	54.30	36.70	8
Vlachopoulos et al. ⁴⁴ (2010)	Greece	2006–2008	Biopsy	51	23	28	55.40	51.50	47.80	64.30	8
Kiciler et al. ⁹⁰ (2010)	Turkey	2010–2010	Biopsy	114	60	54	31.70	30.30	100.00	100.00	7
Kim et al. ⁷⁵ (2009)	South Korea	2001–2001	Ultrasound	1,021	507	514	52.01	51.55	62.50	46.50	8
Ramilli et al. ⁶² (2009)	Italy	2006–2007	Ultrasound	154	90	64	59.30	60.10	51.10	45.30	7
Wang et al. ⁸¹ (2009)	China	2010–2016	Ultrasound	169	101	68	-	-	51.50	41.20	7

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Fracanzani et al. ⁵⁸ (2008)	Italy	2002–2004	Ultrasound	375	125	250	50.50	52.00	87.20	87.20	7
Hamaguchi et al. ⁶⁷ (2007)	Japan	1998–2004	Ultrasound	1,647	312	1,335	49.10	47.80	80.10	54.70	7
Aygun et al. ⁸⁴ (2008)	Turkey	2005–2006	Biopsy	80	40	40	43.20	38.80	52.50	50.00	8
Targher et al. ⁶⁵ (2006)	Italy	2006–2006	Ultrasound	120	60	60	46.00	46.00	68.00	68.00	7
Targher et al. ⁶⁵ (2006)	Italy	2006–2006	Ultrasound	245	85	160	46.00	46.00	58.80	59.40	8
Targher et al. ⁶⁶ (2005)	Italy	2005–2005	Ultrasound	90	50	40	45.00	45.00	60.00	65.00	8
Brea et al. ⁹⁵ (2005)	Spain	2002–2003	Ultrasound	80	40	40	53.20	51.60	50.00	50.00	8

NAFLD, non-alcoholic fatty liver disease.