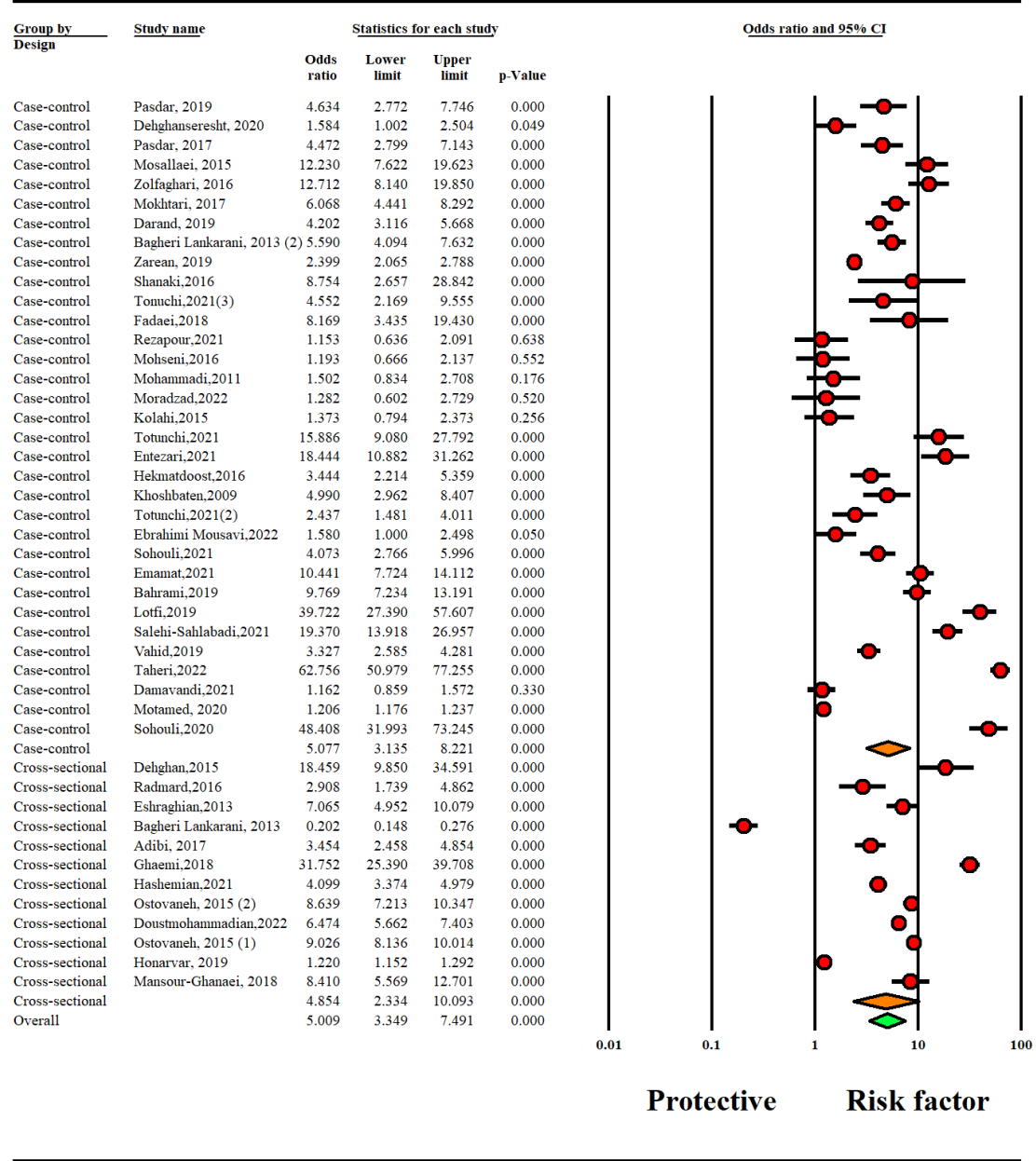
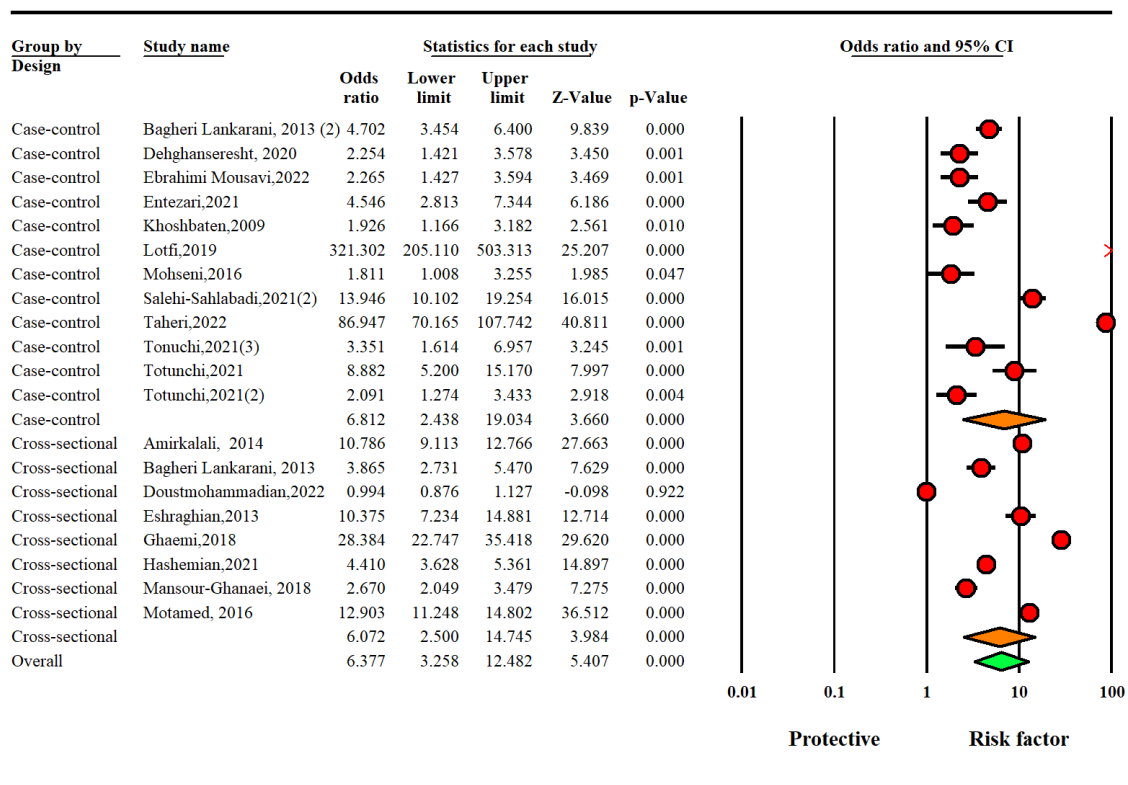


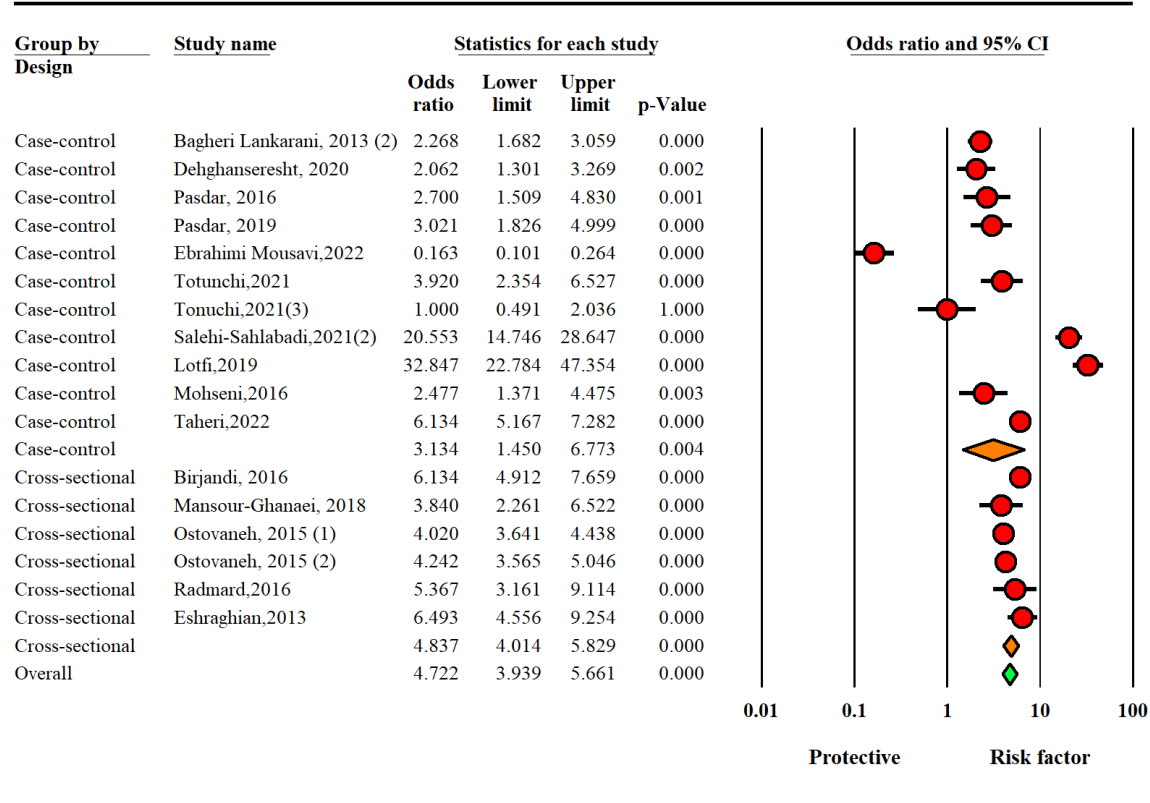
Appendix1: Forest plot for the relationship between age and nonalcoholic fatty liver



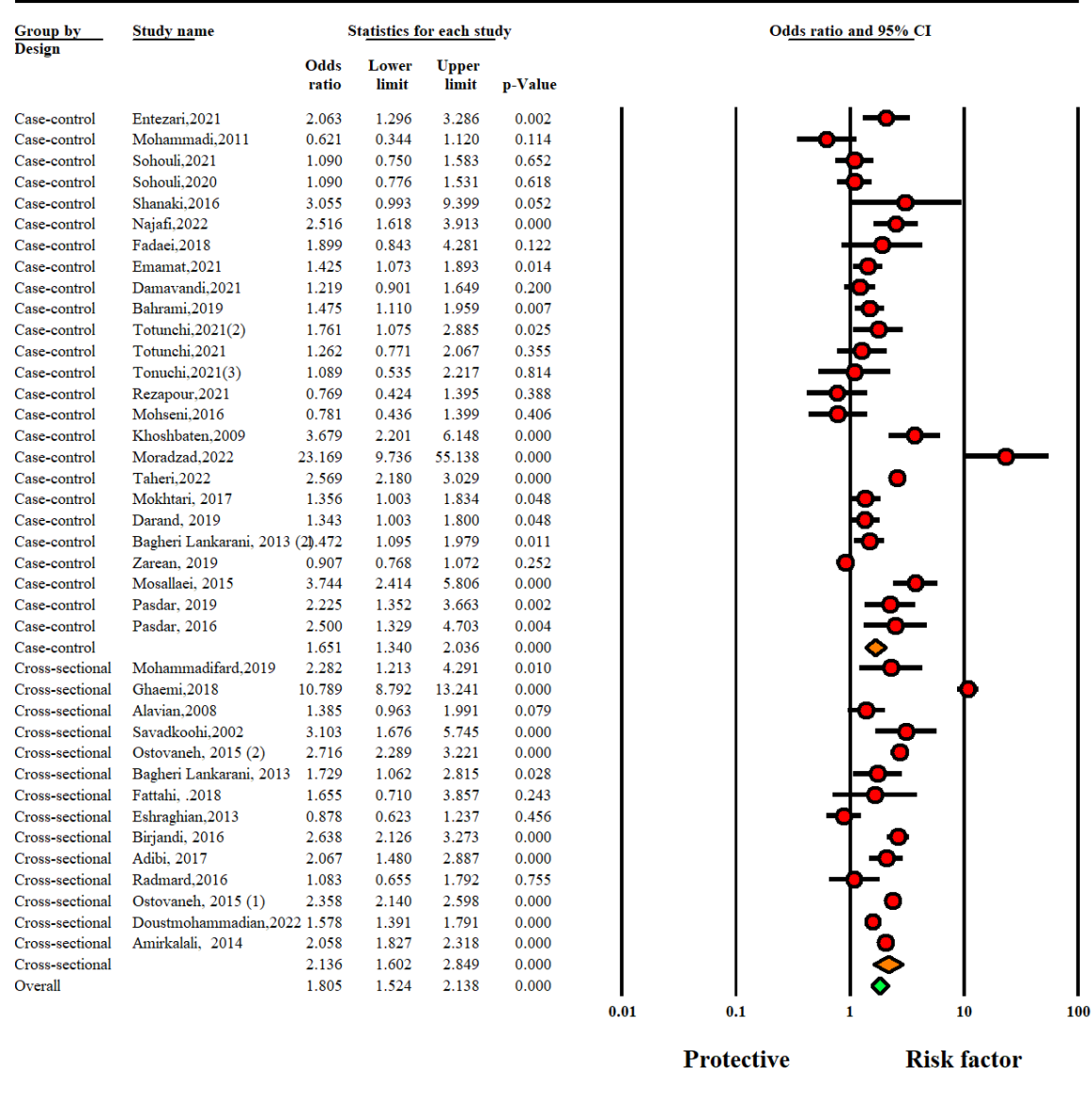
Appendix2: Forest plot for the relationship between body mass index and nonalcoholic fatty liver



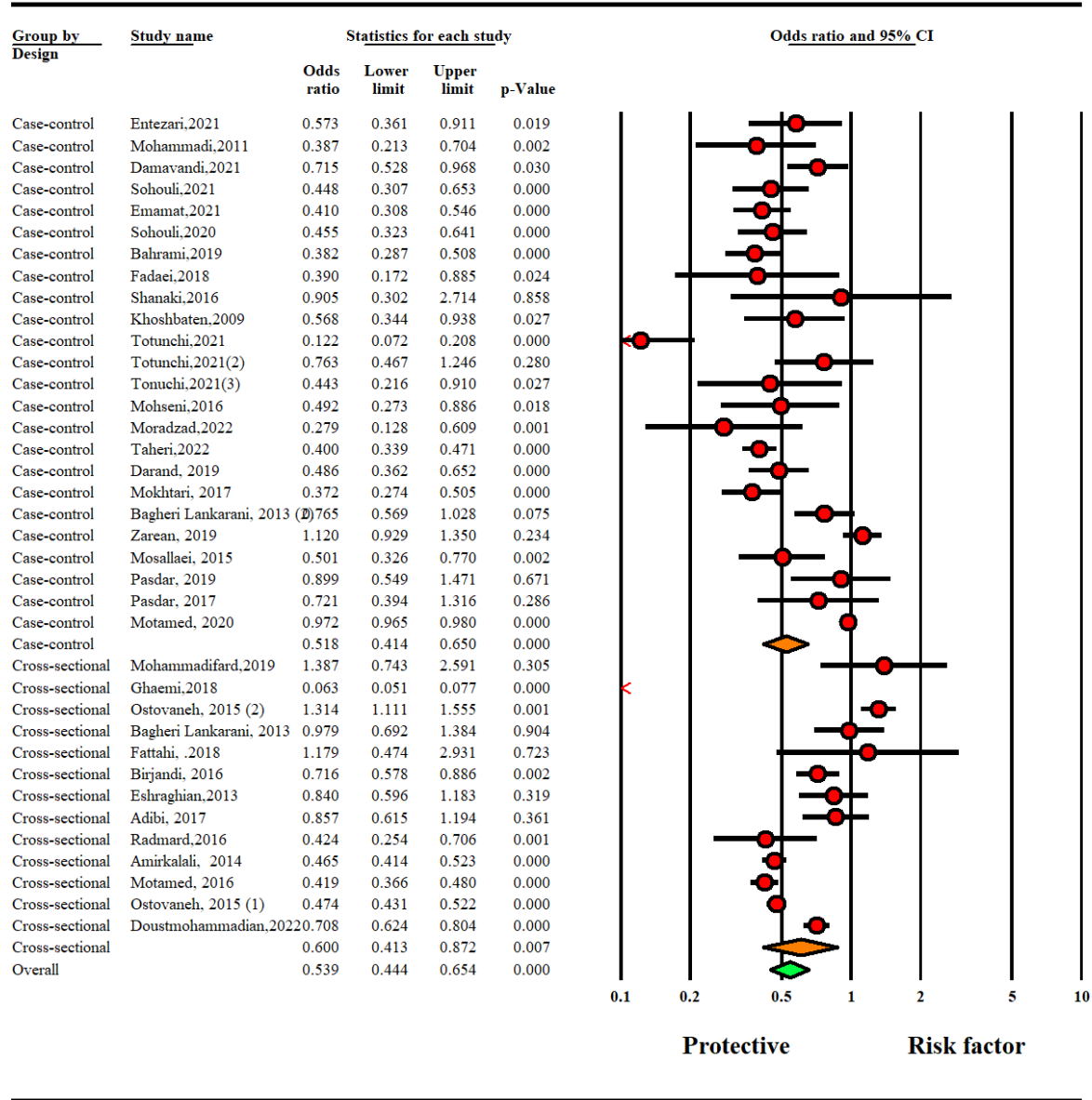
Appendix3: Forest plot for the relationship between waist circumference and nonalcoholic fatty liver



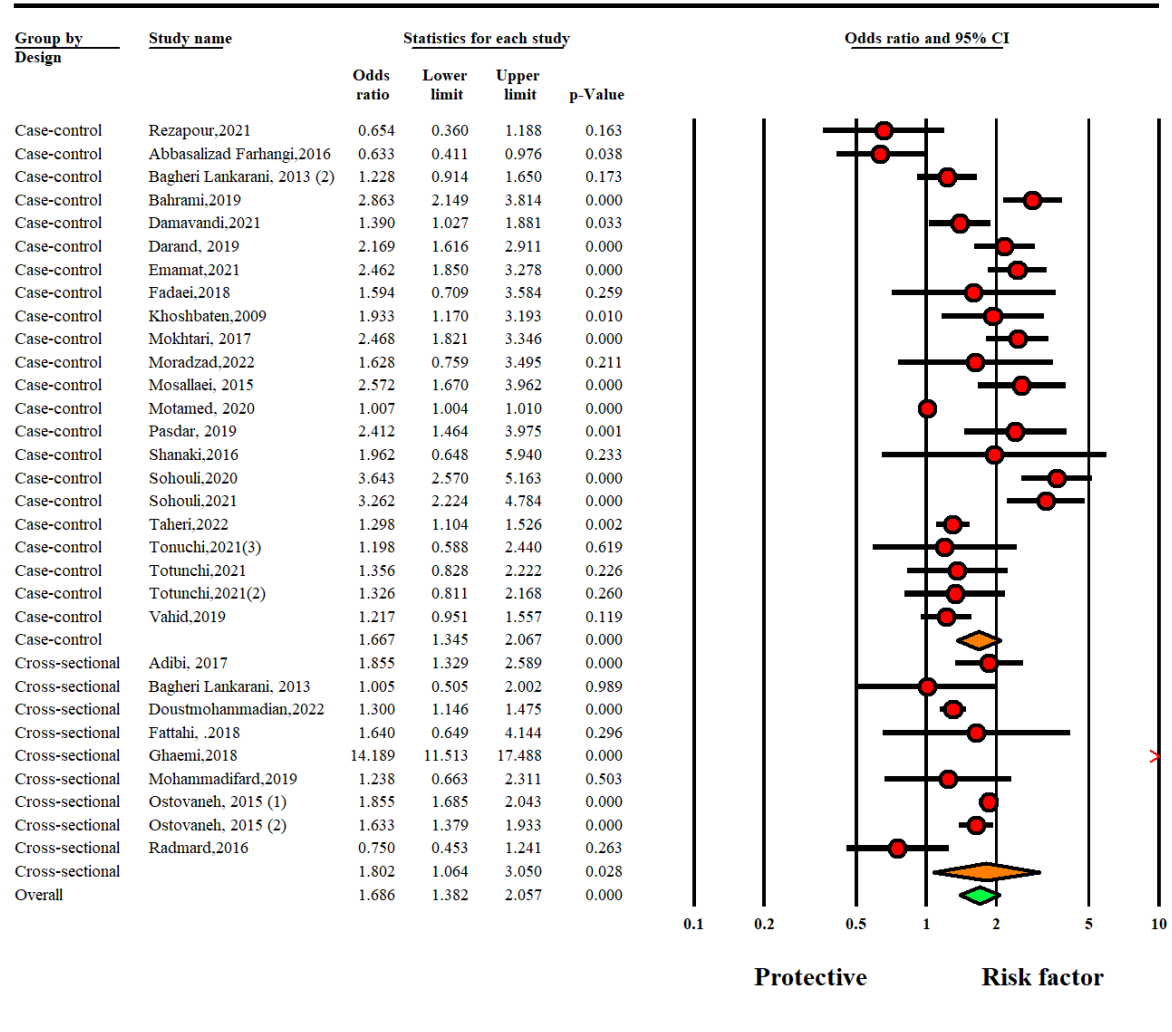
Appendix4: Forest plot for the relationship between waist to hip ratio and nonalcoholic fatty liver



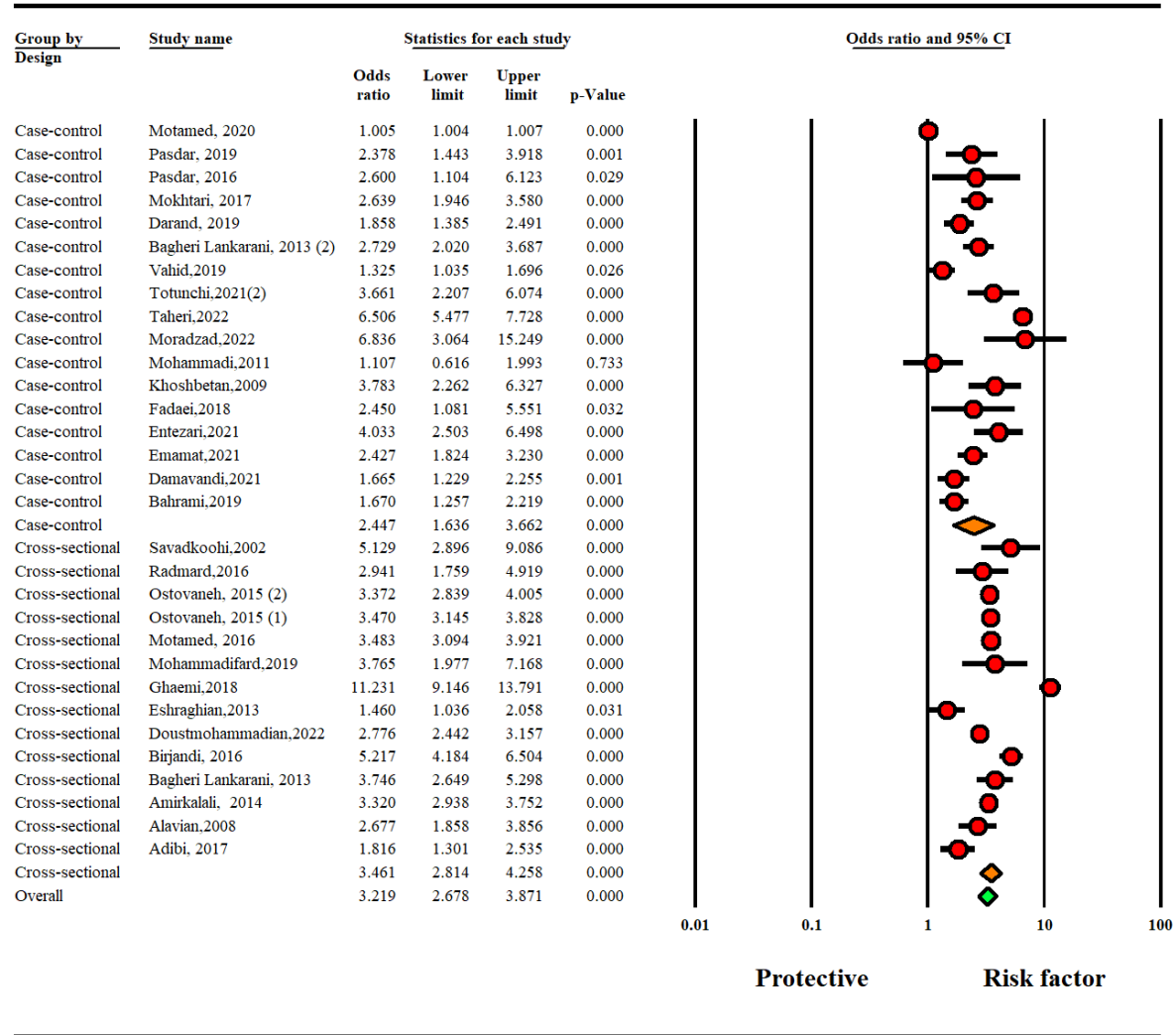
Appendix5: Forest plot for the relationship between total cholesterol and nonalcoholic fatty liver



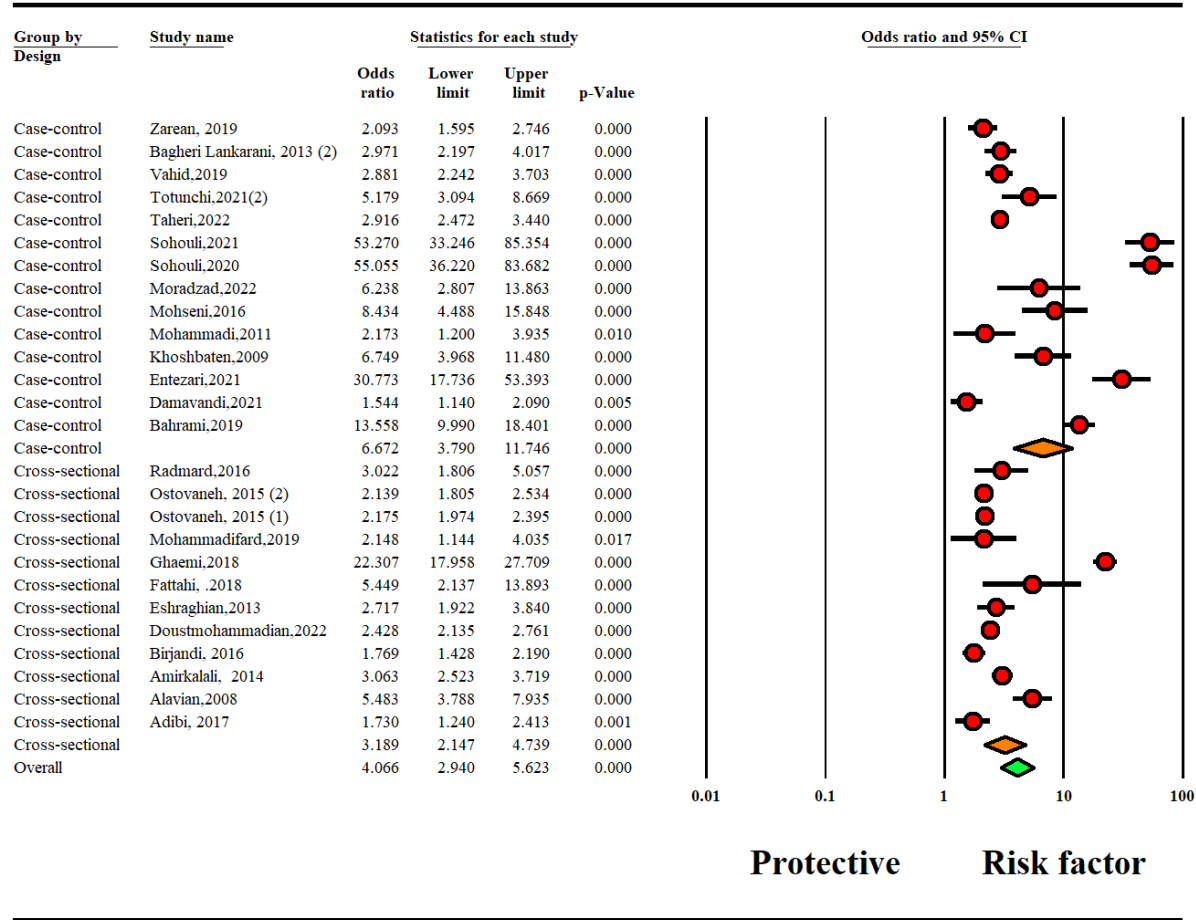
Appendix6: Forest plot for the relationship between high density lipoprotein and nonalcoholic fatty liver



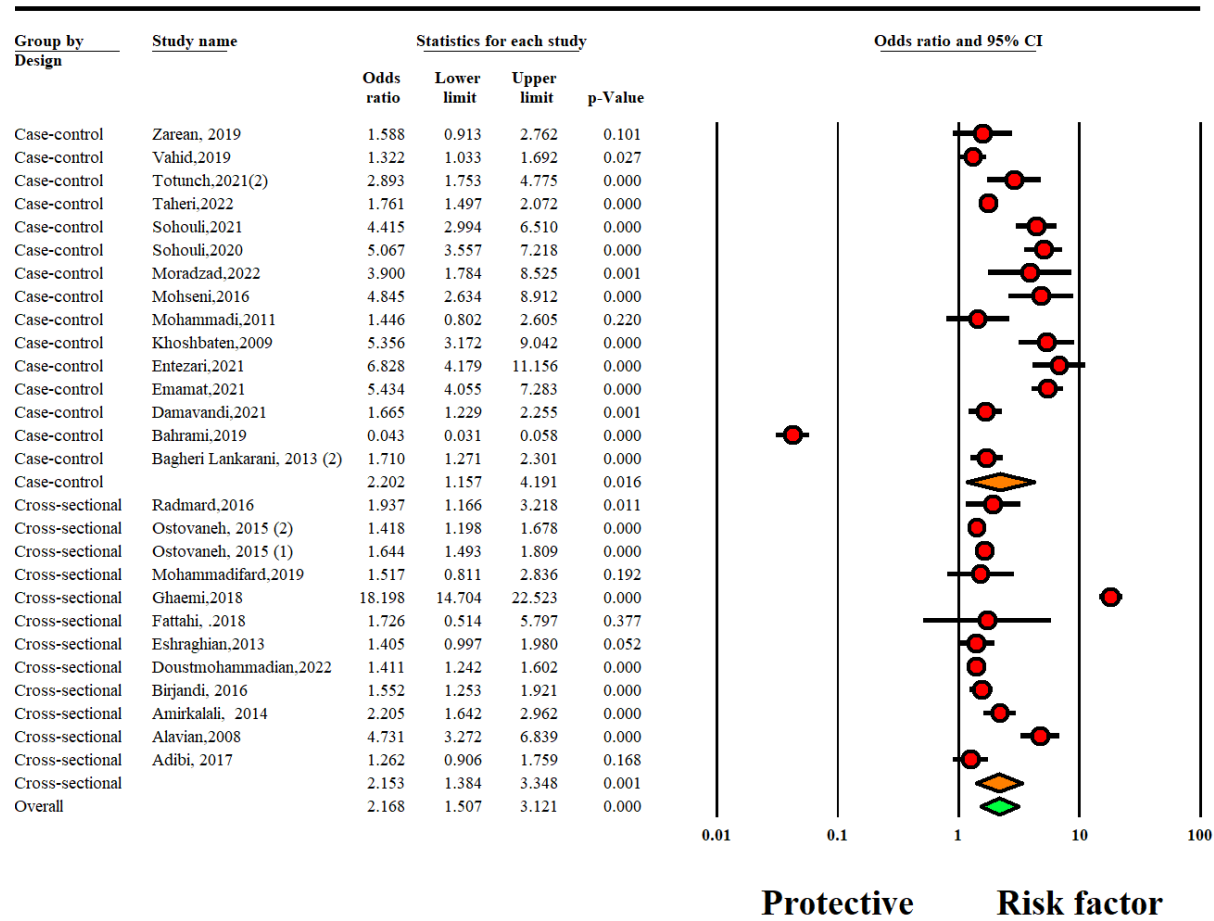
Appendix7: Forest plot for the relationship between low density lipoprotein and nonalcoholic fatty liver



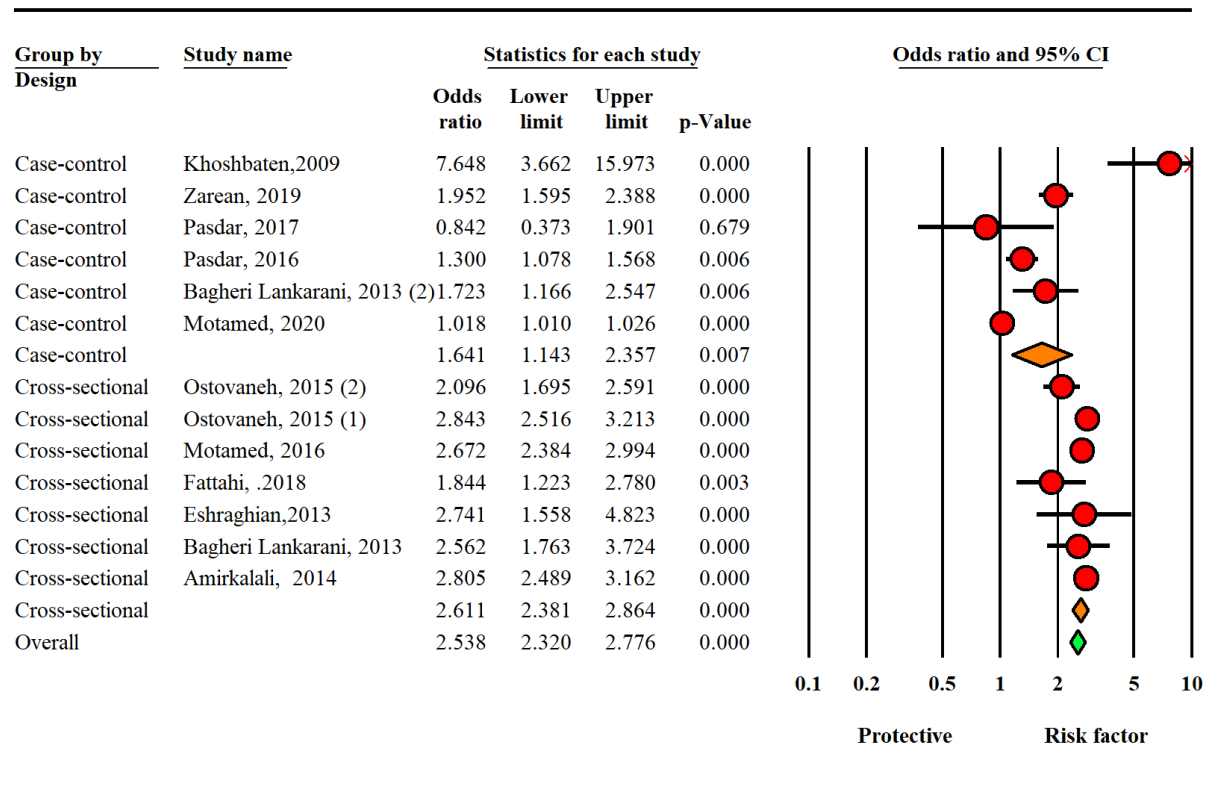
Appendix8: Forest plot for the relationship between triglyceride and nonalcoholic fatty liver



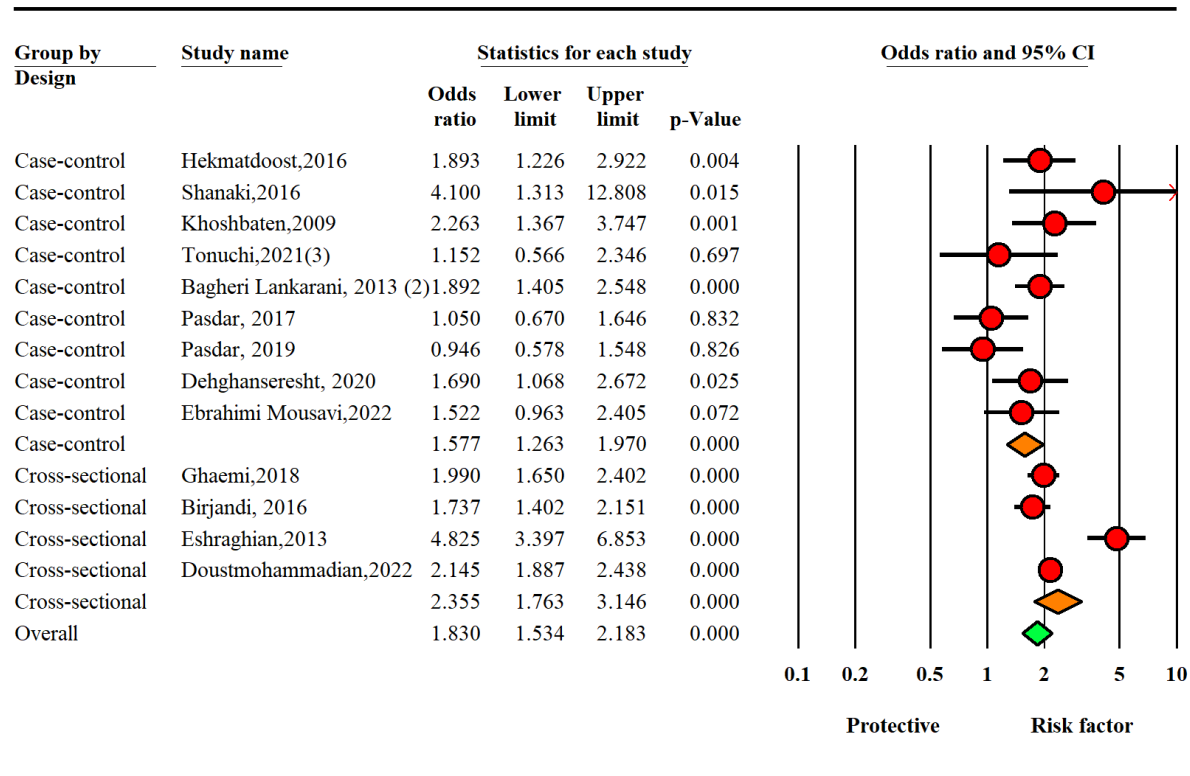
Appendix9: Forest plot for the relationship between alanine aminotransferase and nonalcoholic fatty liver



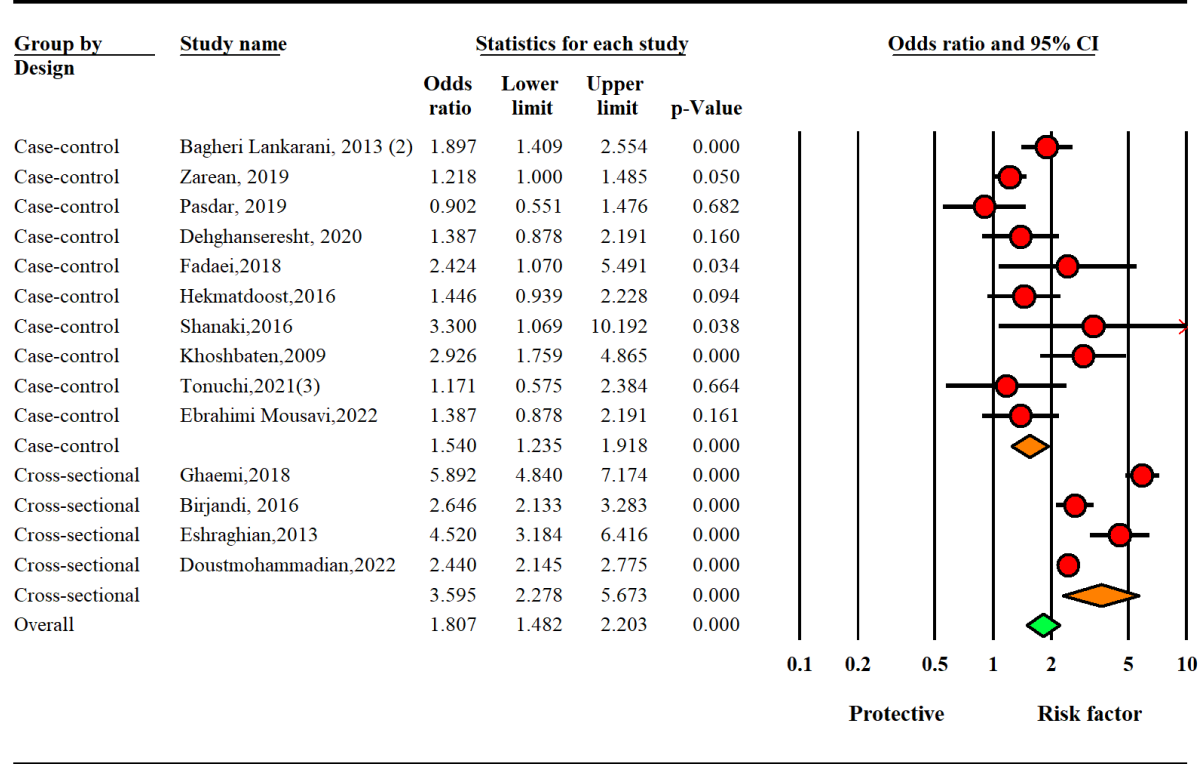
Appendix10: Forest plot for the relationship between aspartate aminotransferase and nonalcoholic fatty liver



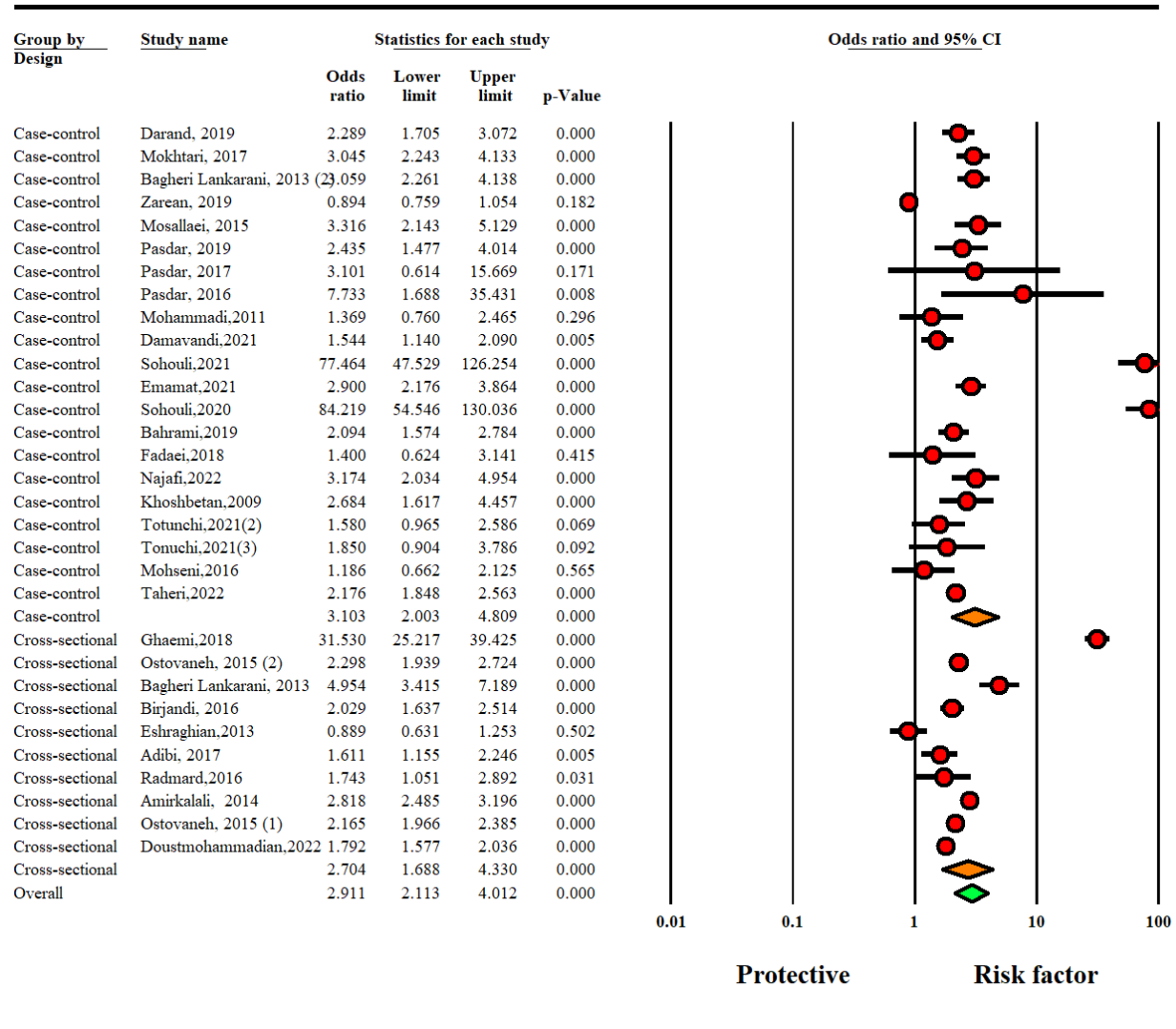
Appendix11: Forest plot for the relationship between hypertension and nonalcoholic fatty liver



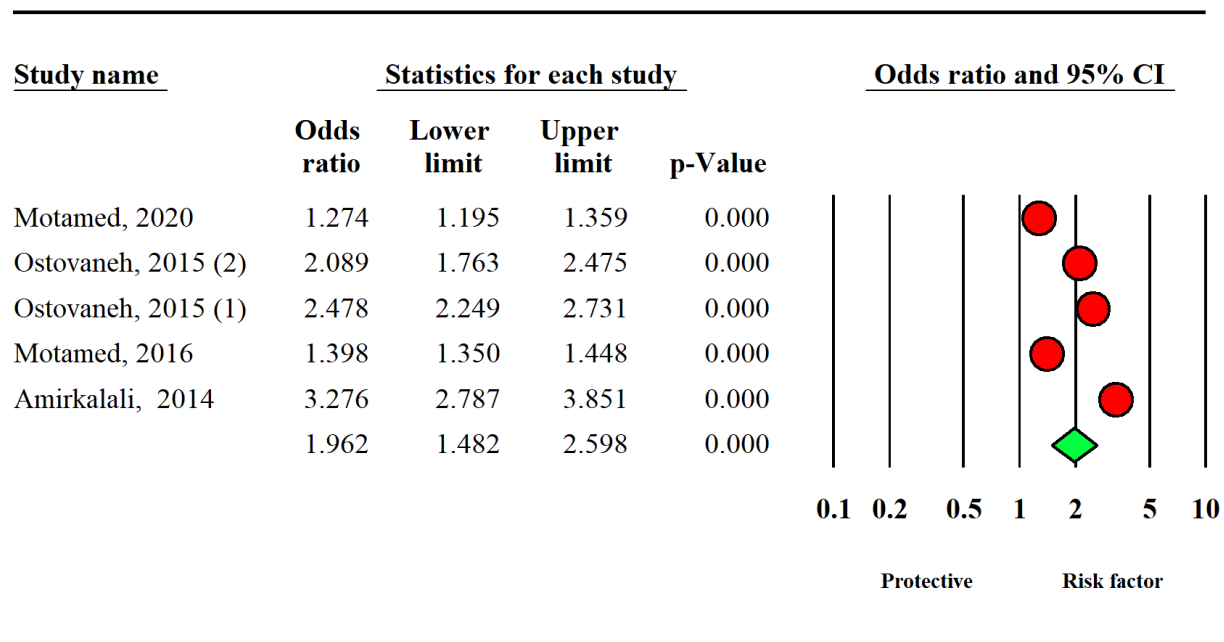
Appendix12: Forest plot for the relationship between systolic blood pressure and nonalcoholic fatty liver



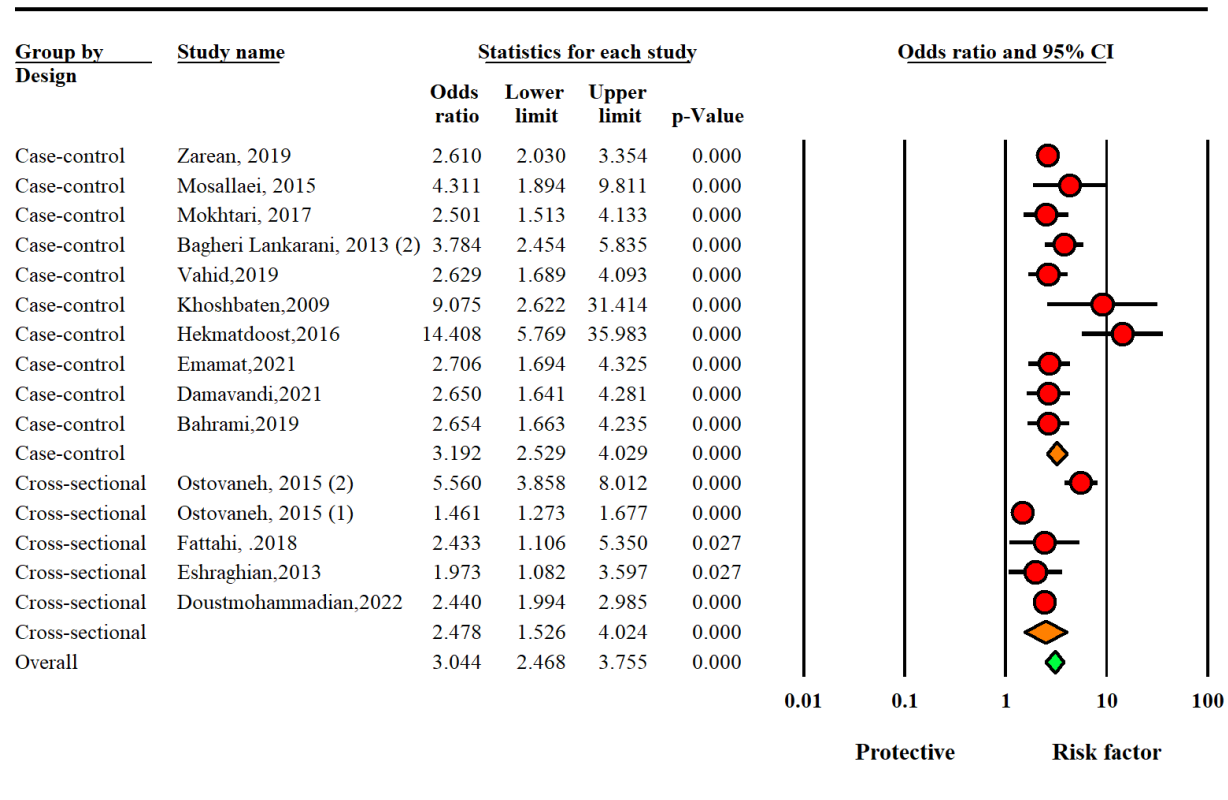
Appendix13: Forest plot for the relationship between diastolic blood pressure and nonalcoholic fatty liver



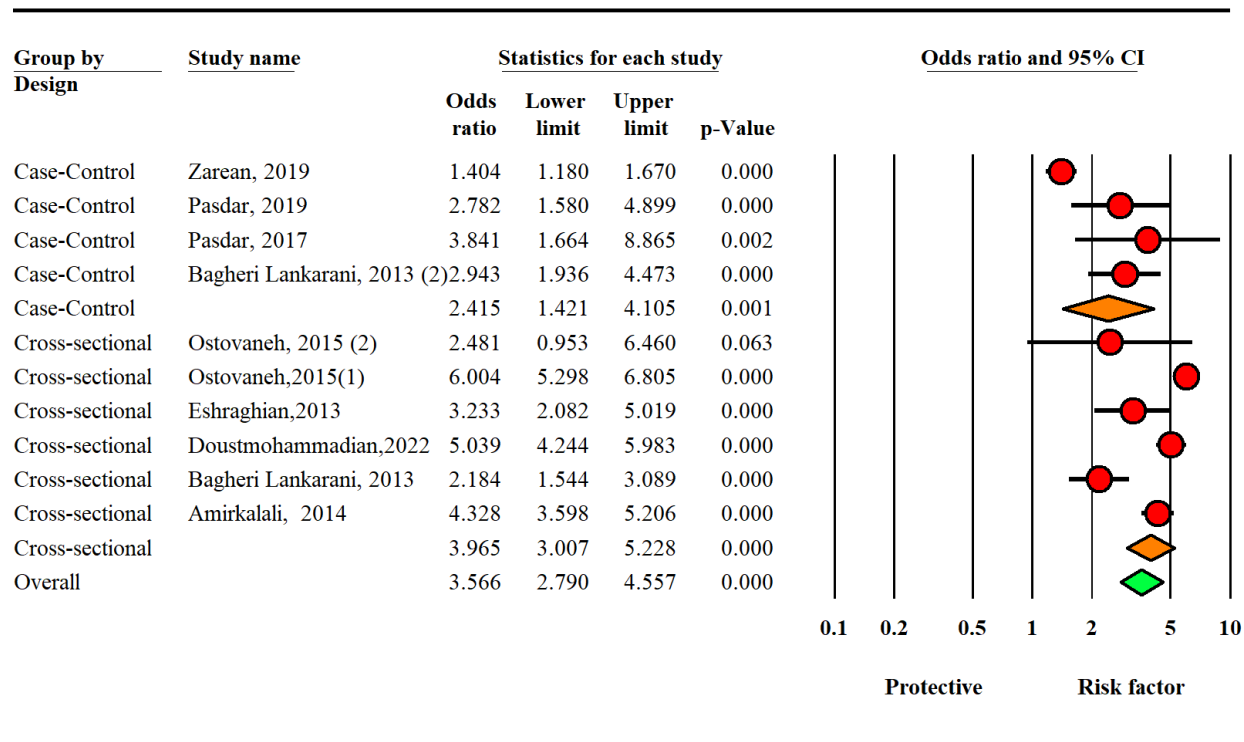
Appendix14: Forest plot for the relationship between fasting blood sugar and nonalcoholic fatty liver



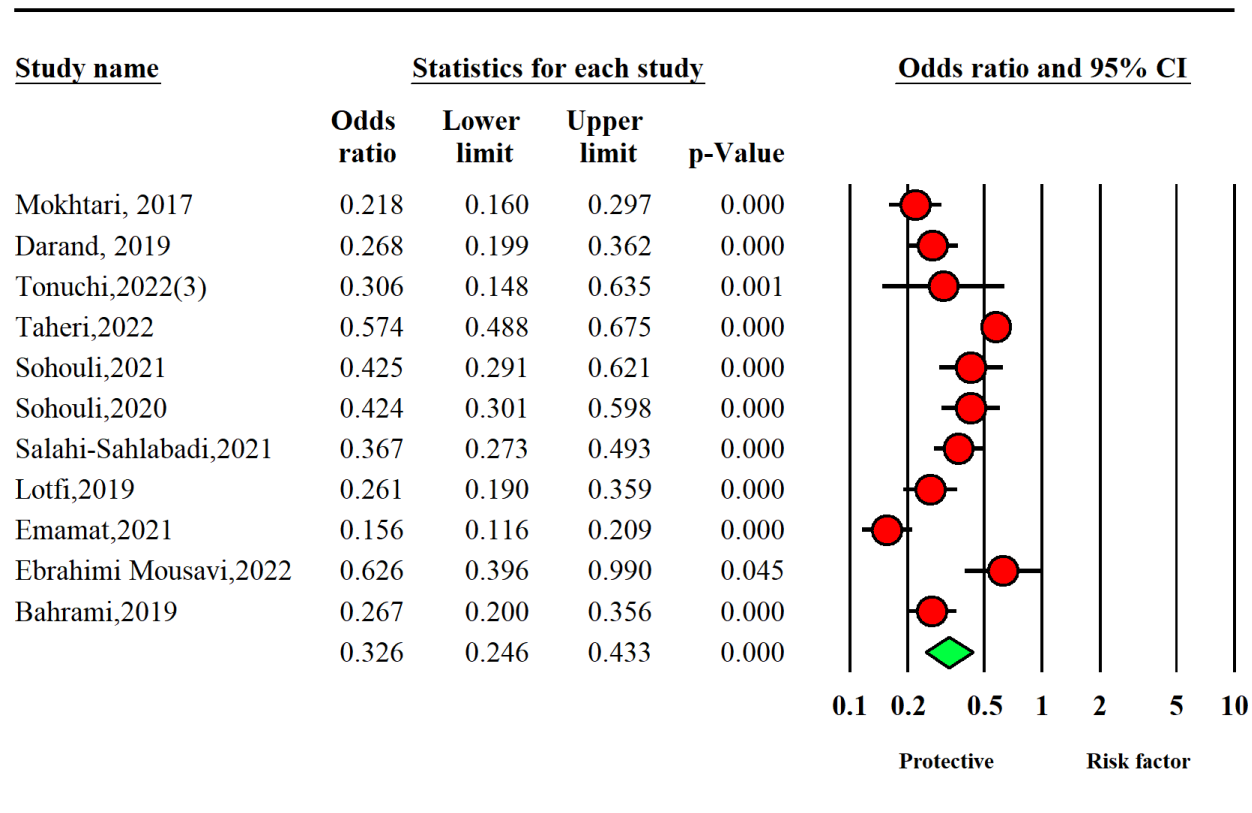
Appendix15: Forest plot for the relationship between homeostasis model assessment-estimated insulin resistance and nonalcoholic fatty liver



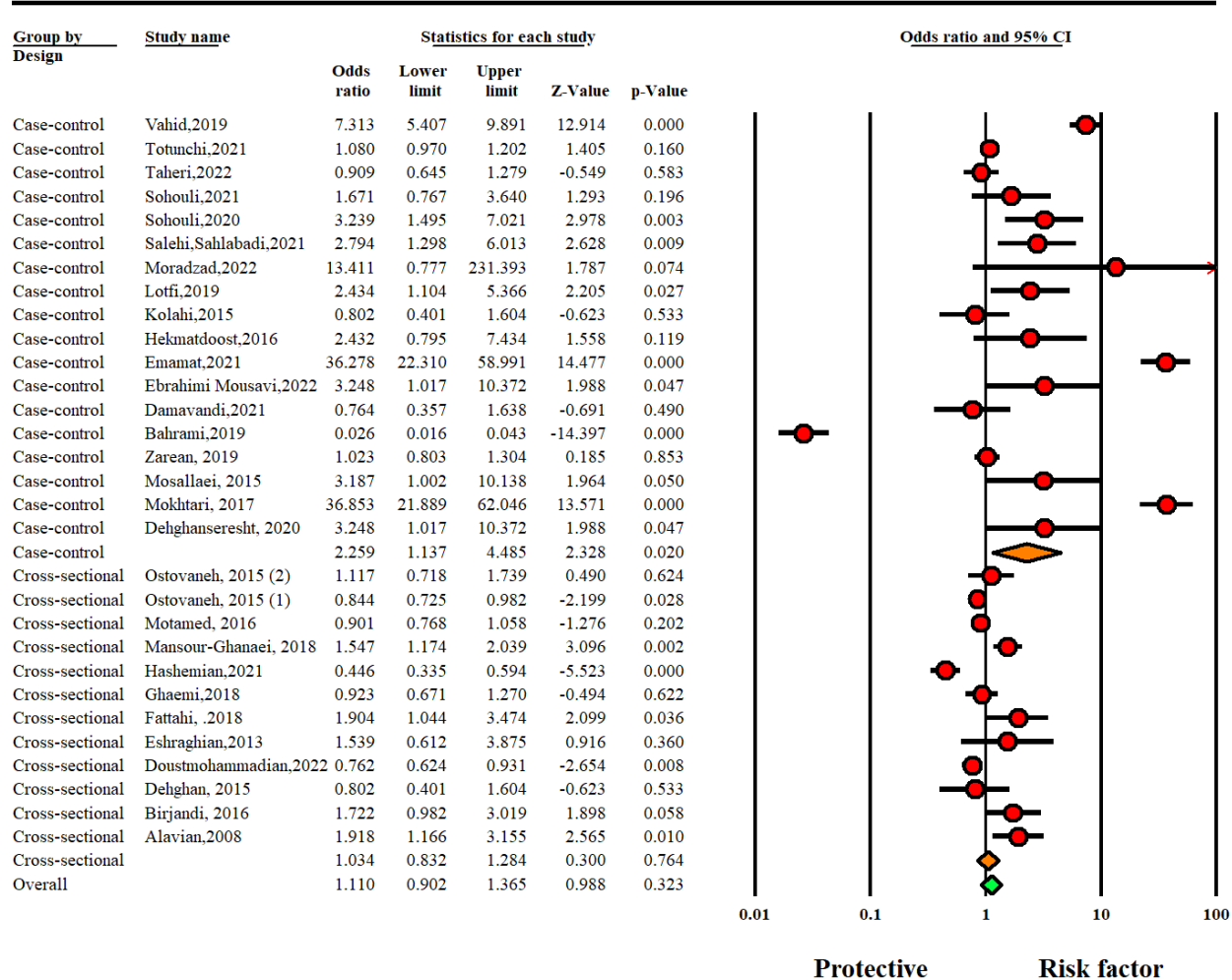
Appendix16: Forest plot for the relationship between diabetes mellitus and nonalcoholic fatty liver



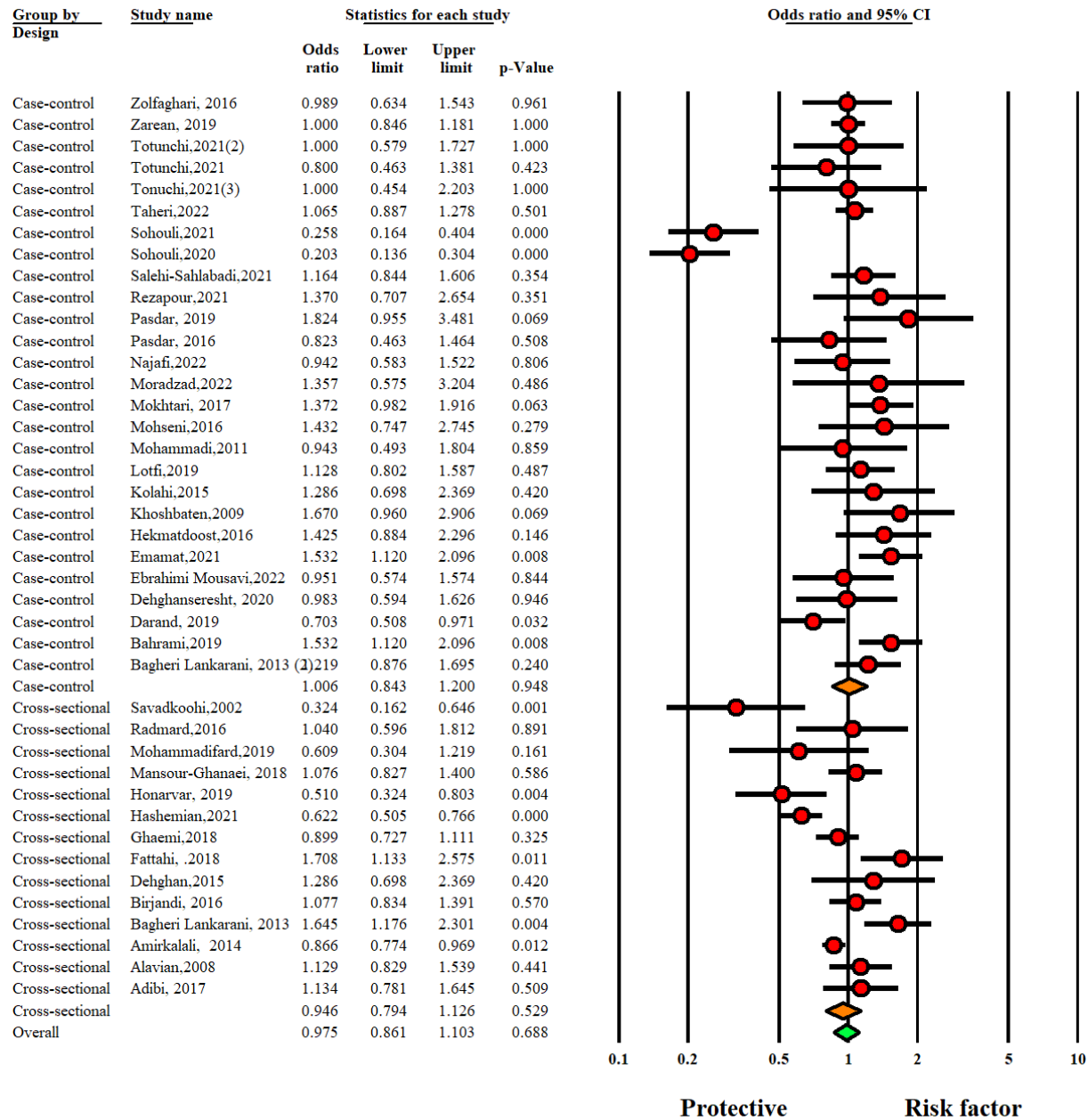
Appendix17: Funnel plot for the relationship between metabolic syndrome and nonalcoholic fatty liver



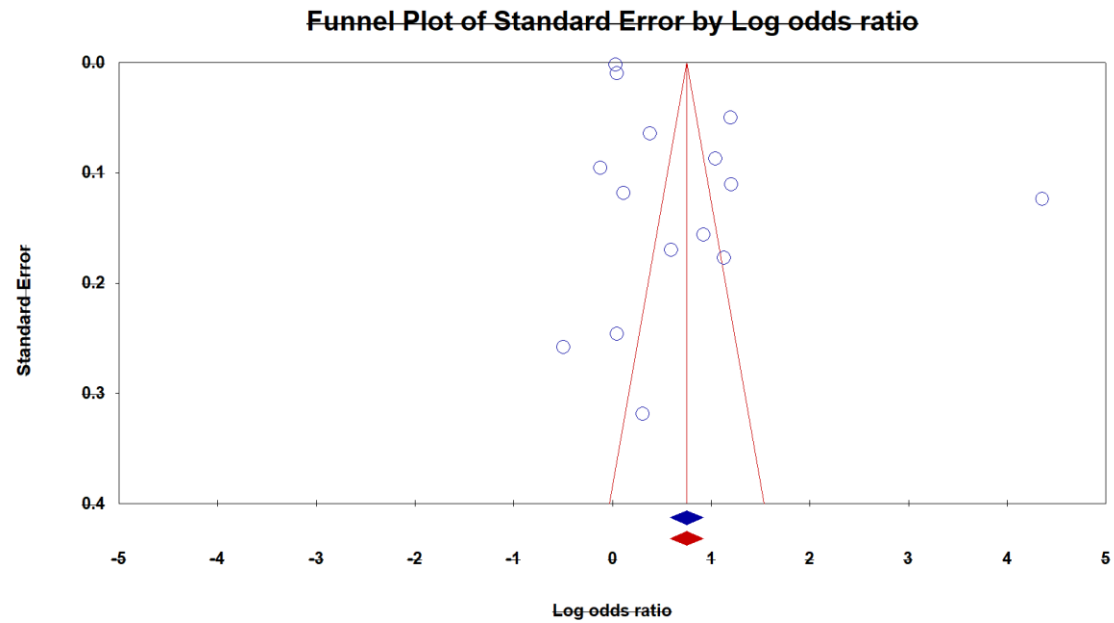
Appendix18: Forest plot for the relationship between physical activity and nonalcoholic fatty liver



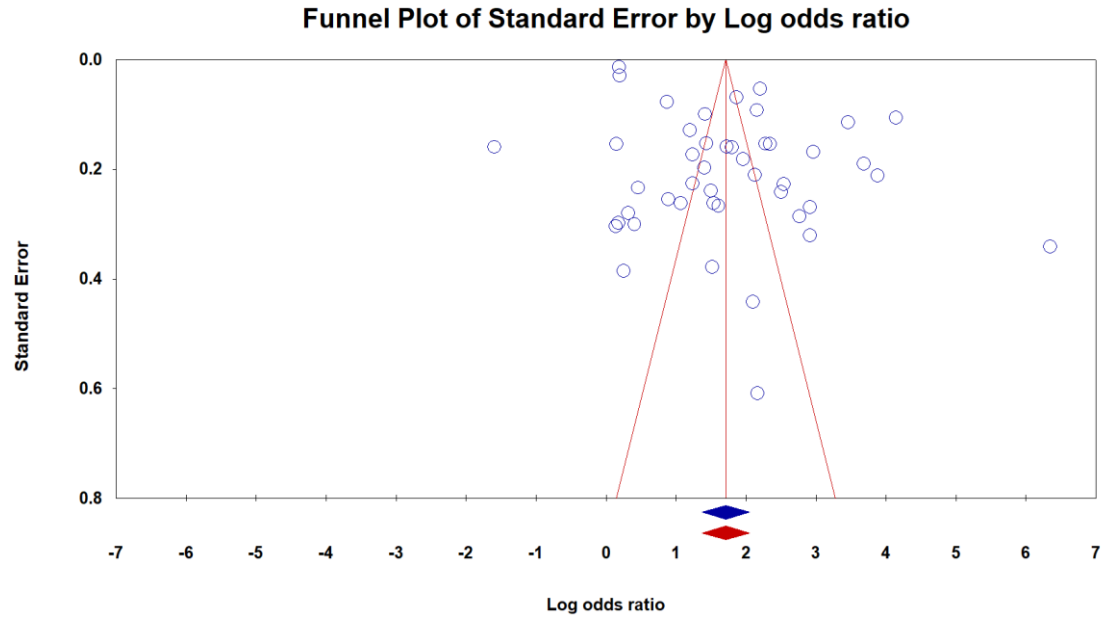
Appendix19: Forest plot for the relationship between smoking and nonalcoholic fatty liver



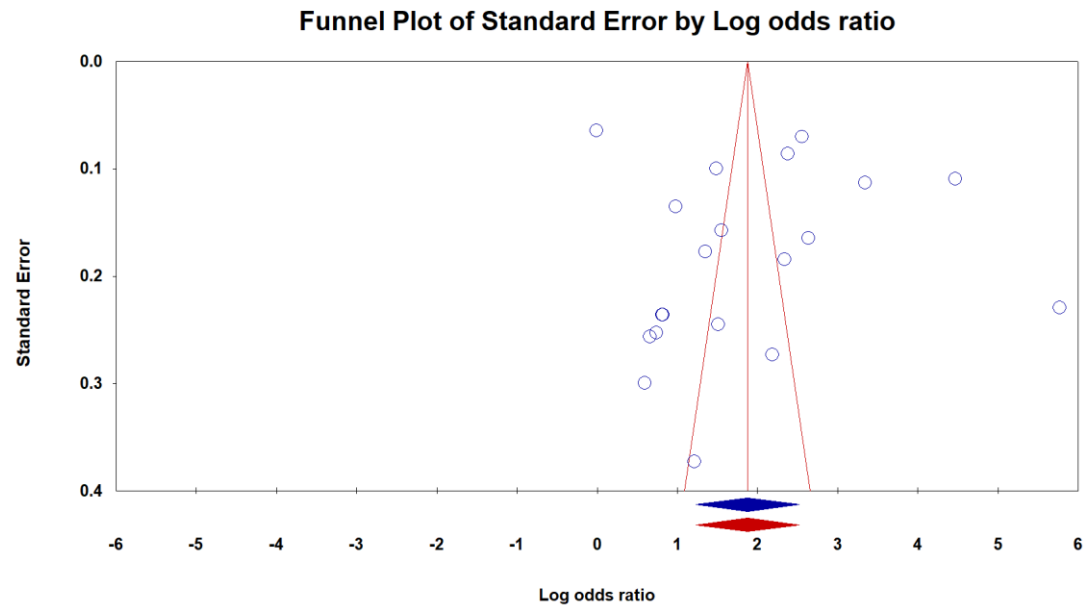
Appendix20: Forest plot for the relationship between gender and nonalcoholic fatty liver



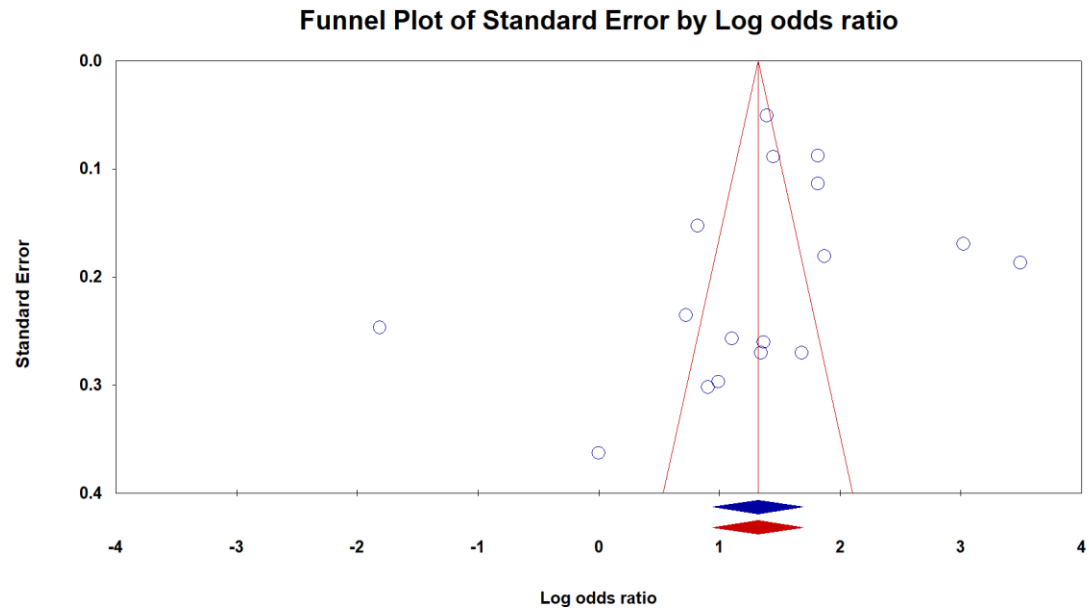
Appendix21: Funnel plot for the relationship between age and nonalcoholic fatty liver



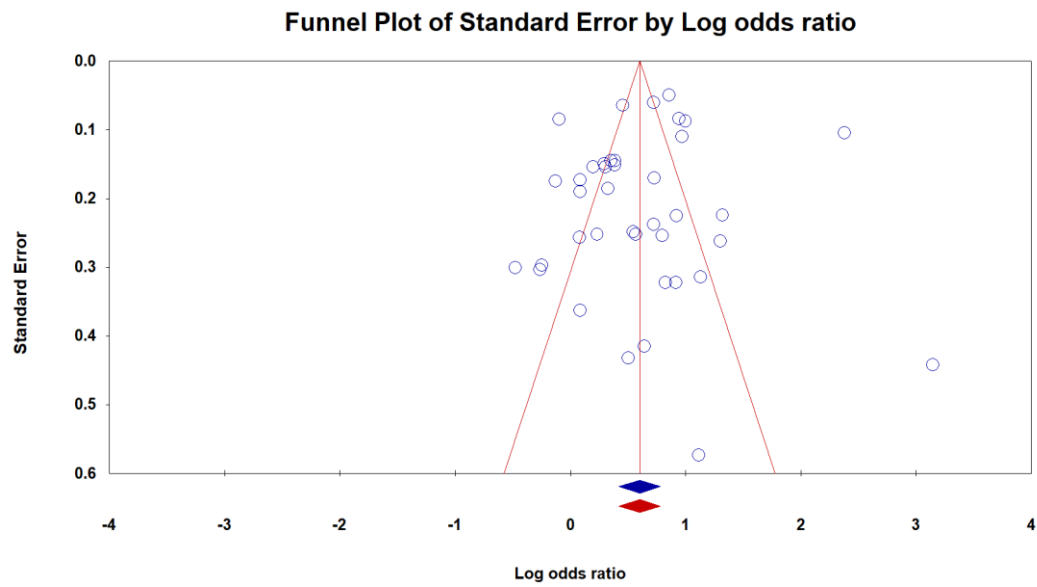
Appendix22: Funnel plot for the relationship between body mass index and nonalcoholic fatty liver



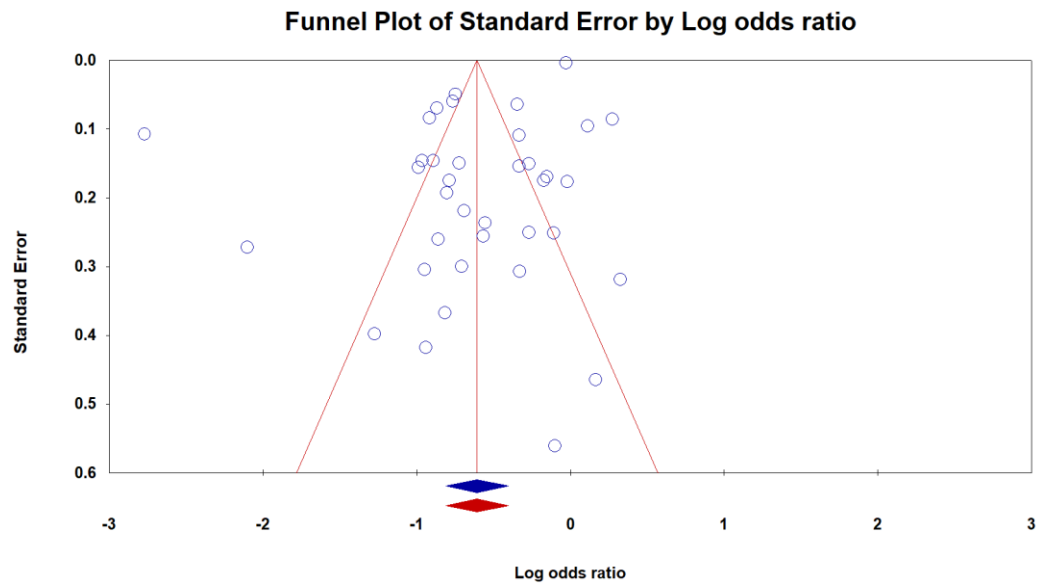
Appendix23: Funnel plot for the relationship between waist circumference and nonalcoholic fatty liver



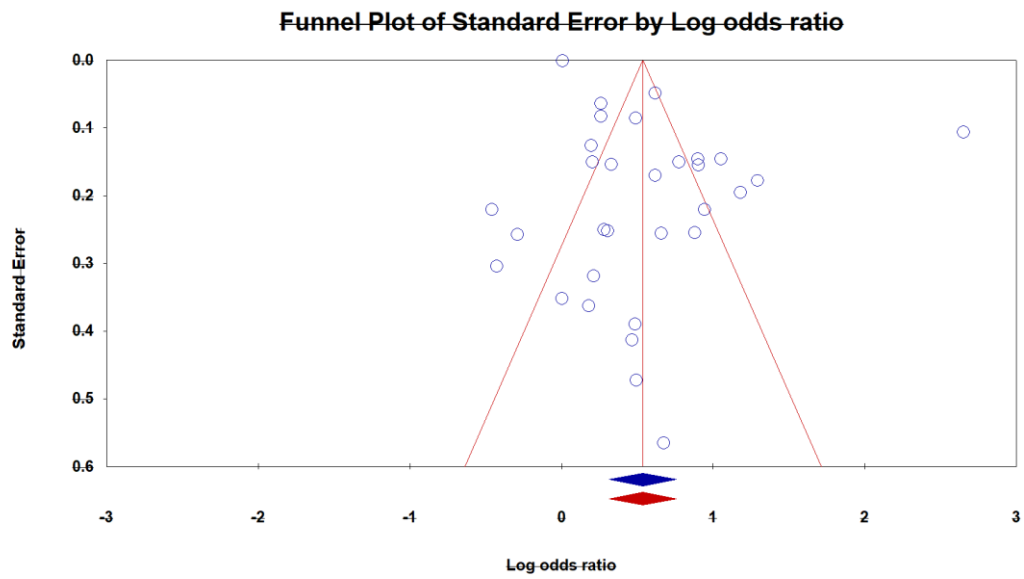
Appendix24: Funnel plot for the relationship between waist to hip ratio and nonalcoholic fatty liver



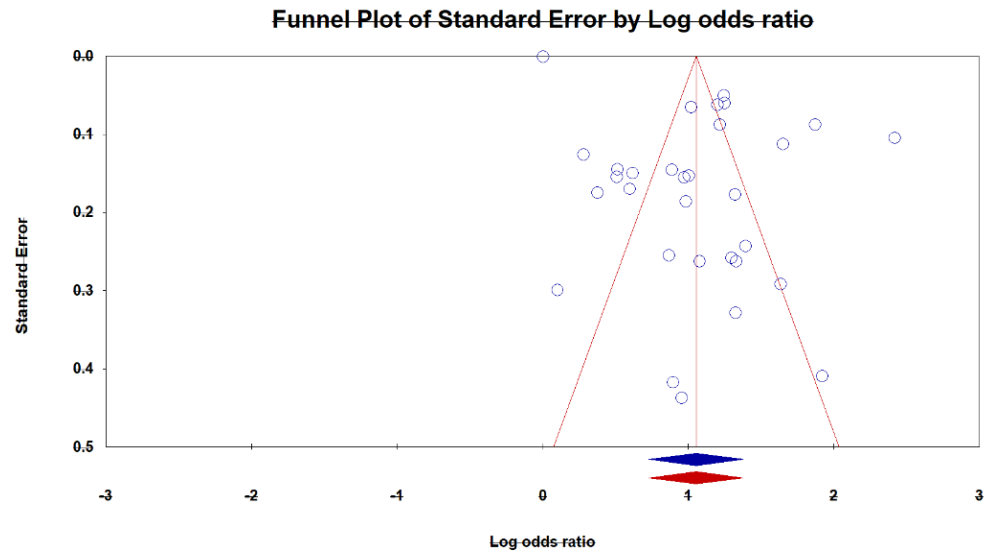
Appendix25: Funnel plot for the relationship between total cholesterol and nonalcoholic fatty liver



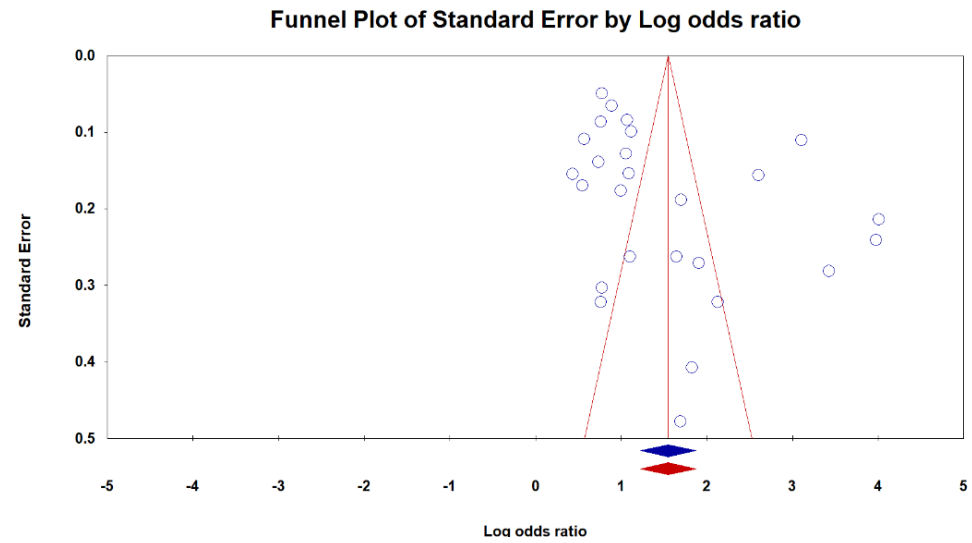
Appendix26: Funnel plot for the relationship between high density lipoprotein and nonalcoholic fatty liver



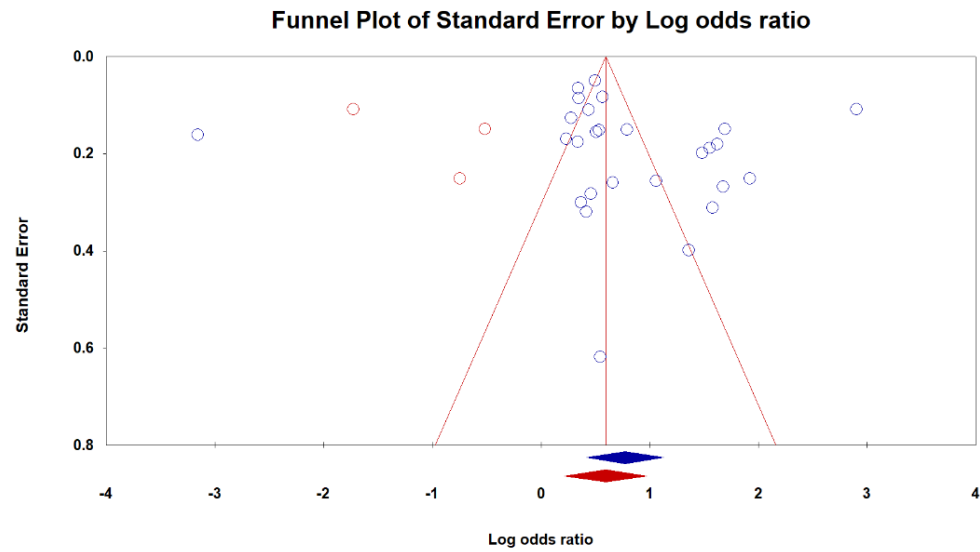
Appendix27: Funnel plot for the relationship between low density lipoprotein and nonalcoholic fatty liver



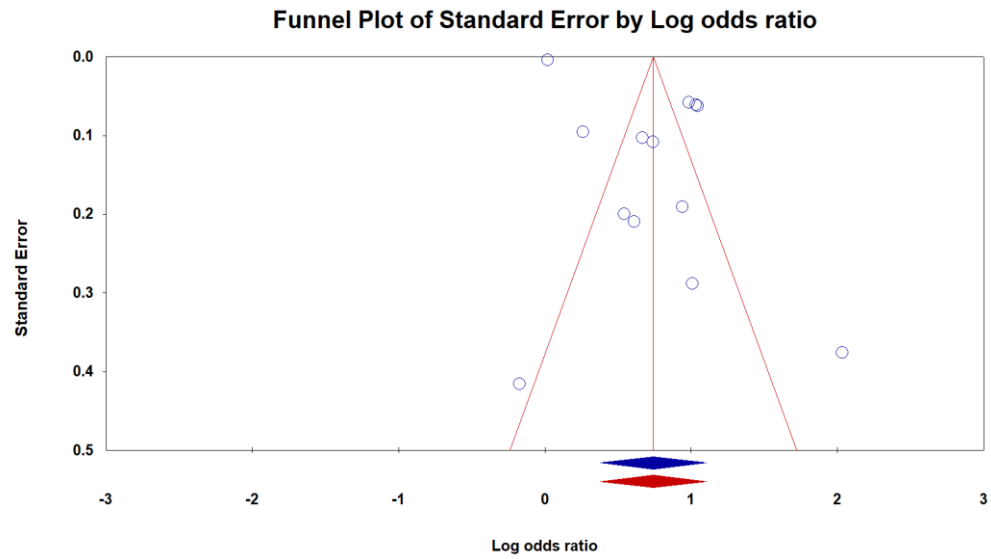
Appendix28: Funnel plot for the relationship between triglyceride and nonalcoholic fatty liver



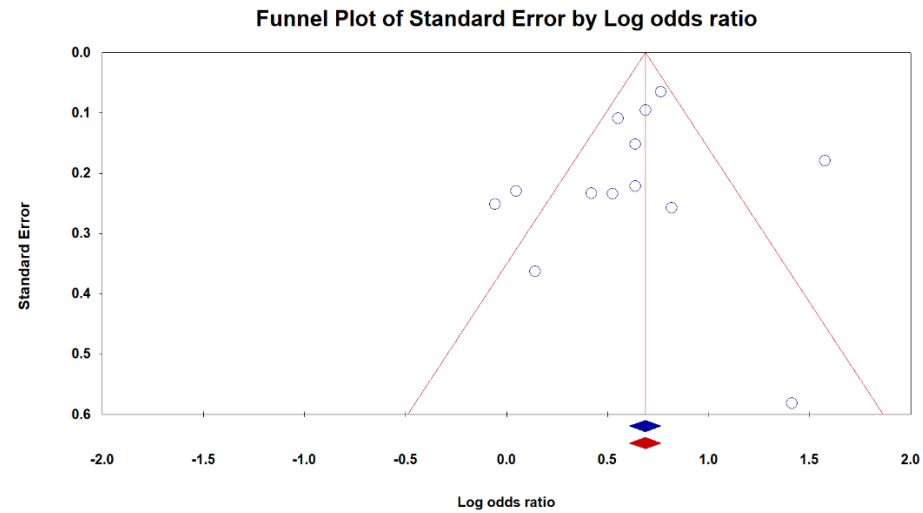
Appendix29: Funnel plot for the relationship between alanine aminotransferase and nonalcoholic fatty liver



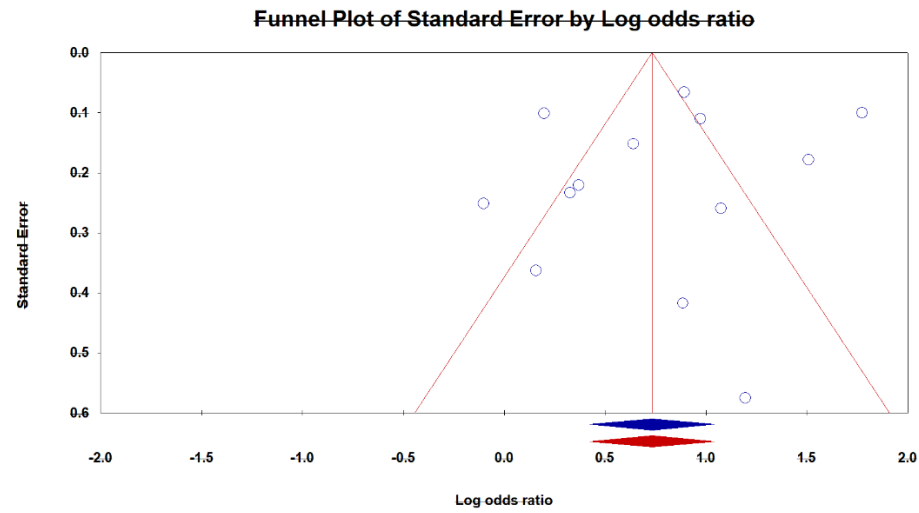
Appendix30: Funnel plot for the relationship between aspartate aminotransferase and nonalcoholic fatty liver



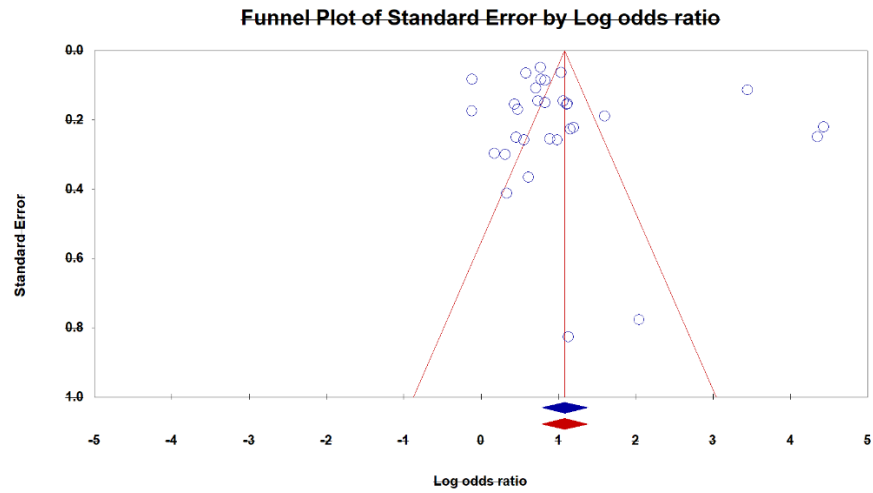
Appendix31: Funnel plot for the relationship between hypertension and nonalcoholic fatty liver



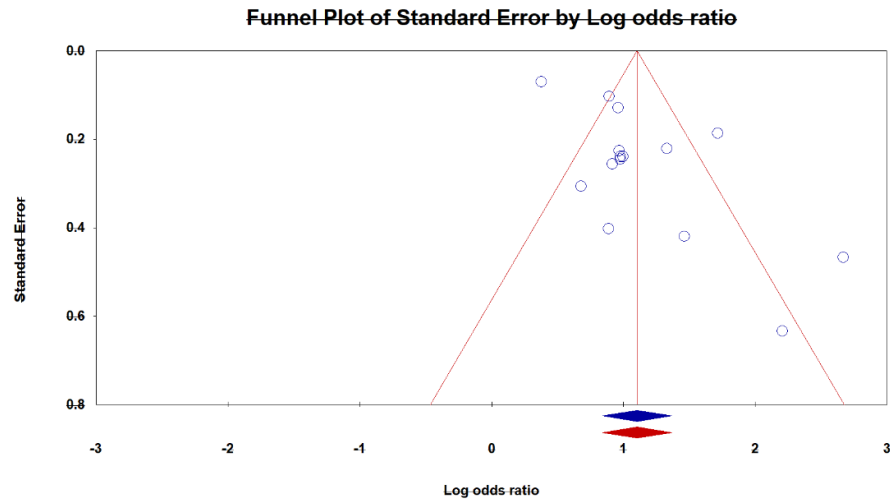
Appendix32: Funnel plot for the relationship between systolic blood pressure and nonalcoholic fatty liver



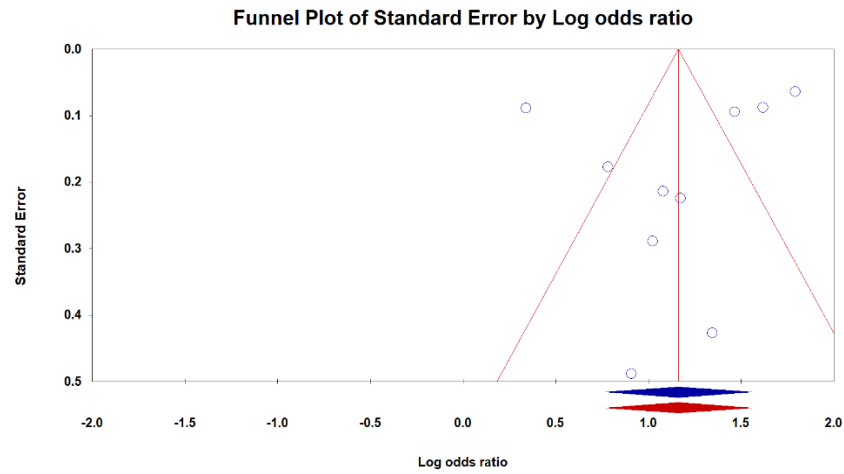
Appendix33: Funnel plot for the relationship between systolic blood pressure and nonalcoholic fatty liver



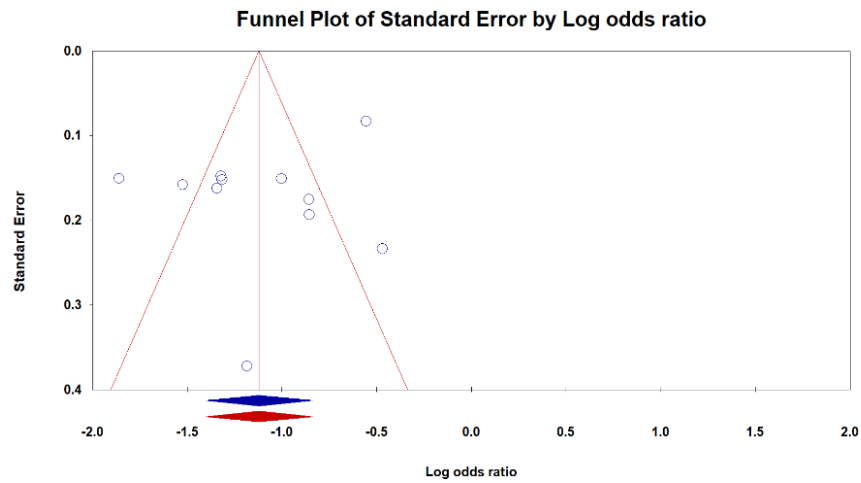
Appendix34: Funnel plot for the relationship between fasting blood sugar and nonalcoholic fatty liver



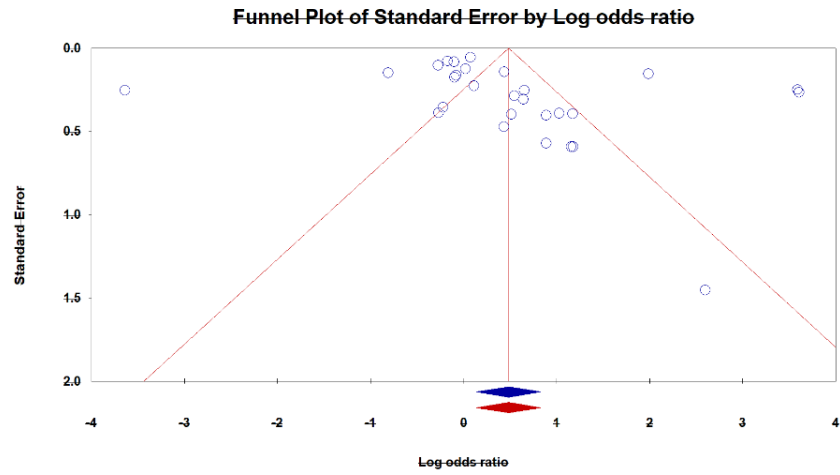
Appendix35: Funnel plot for the relationship between diabetes mellitus and nonalcoholic fatty liver



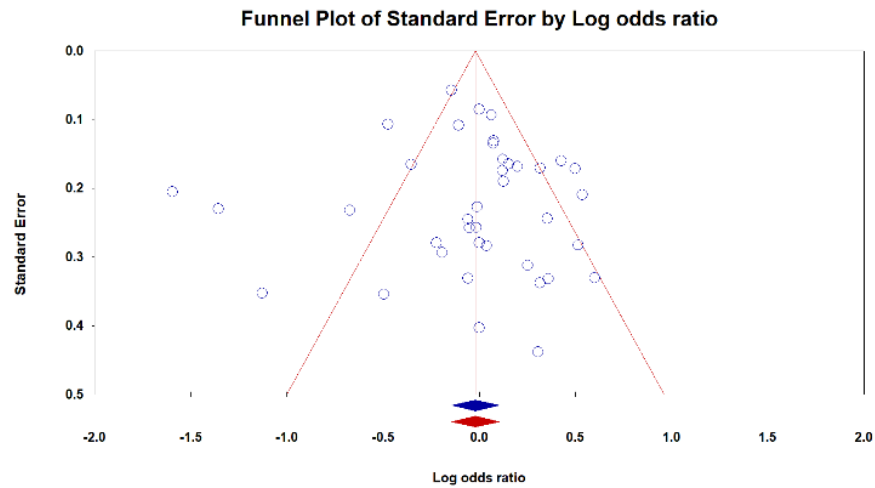
Appendix36: Funnel plot for the relationship between metabolic syndrome and nonalcoholic fatty liver



Appendix37: Funnel plot for the relationship between physical activity and nonalcoholic fatty liver



Appendix38: Funnel plot for the relationship between smoking and nonalcoholic fatty liver



Appendix39: Funnel plot for the relationship between gender and nonalcoholic fatty liver

Appendix 40: Search strategy and keywords of this systematic review and meta-analysis

PubMed	<p>((("Non-alcoholic Fatty Liver Disease"[Mesh]) AND (((((((((((((((((((Epidemiology[Title/Abstract]) OR (prevalence[Title/Abstract])) OR (incidence[Title/Abstract])) OR (frequency[Title/Abstract])) OR (risk factor[Title/Abstract])) OR (risk factors[Title/Abstract])) OR (related factor[Title/Abstract])) OR (related factors[Title/Abstract])) OR (relate factor[Title/Abstract])) OR (relate factors[Title/Abstract])) OR (associated factor[Title/Abstract])) OR (associated factors[Title/Abstract])) OR (associate factor[Title/Abstract])) OR (associate factors[Title/Abstract])) OR (odd ratio[Title/Abstract])) OR (odds ratio[Title/Abstract])) OR (epidemiologic[Title/Abstract]))) AND (((Iran[Title/Abstract]) OR (Iranian[Title/Abstract])) OR (Iranian population[Title/Abstract])) OR (Iranian people[Title/Abstract])) OR (Iran[Affiliation]))).</p>
Scopus	<p>TITLE-ABS-KEY ("Non alcoholic Fatty Liver Disease" OR "NAFLD" OR " Nonalcoholic Fatty Liver Disease" OR "Fatty Liver, Nonalcoholic" OR "Fatty Livers, Nonalcoholic" OR "Liver, Nonalcoholic Fatty" OR "Livers, Nonalcoholic Fatty" OR "Nonalcoholic Fatty Liver" OR "Nonalcoholic Fatty Livers" OR "Nonalcoholic Steatohepatitis" OR "Nonalcoholic Steatohepatitides" OR "Steatohepatitides, Nonalcoholic" OR "Steatohepatitis, Nonalcoholic") AND TITLE-ABS-KEY ("Epidemiology" OR "Social Epidemiology" OR "Epidemiologies, Social" OR "Epidemiology, Social" OR "Social Epidemiologies" OR "Prevalence" OR "Period Prevalence" OR "Period Prevalences" OR "Prevalence, Period" OR "Point Prevalence" OR "Point Prevalences" OR "Prevalence, Point" OR "Incidence" OR "Incidences" OR "Secondary Attack Rate" OR "Attack Rate, Secondary" OR "Rate, Secondary Attack" OR "Secondary Attack Rates" OR "Incidence Proportions" OR "Proportion, Incidence" OR "Attack Rate" OR "Attack Rates" OR "Rate, Attack" OR "Cumulative Incidence" OR "Cumulative Incidences" OR "Incidence, Cumulative" OR "Incidence Rate " OR "Incidence Rates" OR "Rate, Incidence" OR "Person-time Rate" OR "Person time Rate" OR "Person-time Rates" OR "Rate, Person-time" OR "Frequency" OR "Risk factor" OR "Factor, Risk" OR "Social Risk Factors" OR "Factor, Social Risk" OR "Factors, Social Risk" OR "Risk Factor, Social" OR "Risk Factors, Social" OR "Social Risk Factor" OR "Health Correlates" OR "Correlates, Health" OR "Population at Risk" OR "Populations at Risk" OR "Risk Scores" OR "Risk Score" OR "Score, Risk" OR "Risk Factor Scores" OR "Risk Factor Score" OR "Score, Risk Factor" OR "Risk factors" OR "Related factors" OR "Relate factor" OR "Relate factors" OR "Associated factor" OR "Associated factors" OR "Associate factor" OR "Associate factors" OR "Odds ratio" OR "Cross-Product Ratio" OR "Cross Product Ratio" OR "Cross-Product Ratios" OR "Ratio, Cross-Product" OR "Ratios, Cross-Product" OR "Relative Odds" OR "Odds, Relative" OR "Risk Ratio" OR "Ratio, Risk" OR "Ratios, Risk" OR "Risk Ratios" OR "Odd ratio" OR "Epidemiologic") AND TITLE-ABS-KEY ("Iran" OR "Iranian" OR "Iranian people" OR "Iranian population"))</p>
WoS/ISI, and ProQuest	<p>((("Non alcoholic Fatty Liver Disease" OR "NAFLD" OR " Nonalcoholic Fatty Liver Disease" OR "Fatty Liver, Nonalcoholic" OR "Fatty Livers, Nonalcoholic" OR "Liver, Nonalcoholic Fatty" OR "Livers, Nonalcoholic Fatty" OR "Nonalcoholic Fatty Liver" OR "Nonalcoholic Fatty Livers" OR "Nonalcoholic Steatohepatitis" OR</p>

"Nonalcoholic Steatohepatitides" OR "Steatohepatitides, Nonalcoholic" OR "Steatohepatitis, Nonalcoholic") AND ("Epidemiology" OR "Social Epidemiology" OR "Epidemiologies, Social" OR "Epidemiology, Social" OR "Social Epidemiologies" OR "Prevalence" OR "Period Prevalence" OR "Period Prevalences" OR "Prevalence, Period" OR "Point Prevalence" OR "Point Prevalences" OR "Prevalence, Point" OR "Incidence" OR "Incidences" OR "Secondary Attack Rate" OR "Attack Rate, Secondary" OR "Rate, Secondary Attack" OR "Secondary Attack Rates" OR "Incidence Proportions" OR "Proportion, Incidence" OR "Attack Rate" OR "Attack Rates" OR "Rate, Attack" OR "Cumulative Incidence" OR "Cumulative Incidences" OR "Incidence, Cumulative" OR "Incidence Rate" OR "Incidence Rates" OR "Rate, Incidence" OR "Person-time Rate" OR "Person time Rate" OR "Person-time Rates" OR "Rate, Person-time" OR "Frequency" OR "Risk factor" OR "Factor, Risk" OR "Social Risk Factors" OR "Factor, Social Risk" OR "Factors, Social Risk" OR "Risk Factor, Social" OR "Risk Factors, Social" OR "Social Risk Factor" OR "Health Correlates" OR "Correlates, Health" OR "Population at Risk" OR "Populations at Risk" OR "Risk Scores" OR "Risk Score" OR "Score, Risk" OR "Risk Factor Scores" OR "Risk Factor Score" OR "Score, Risk Factor" OR "Risk factors" OR "Related factors" OR "Relate factor" OR "Relate factors" OR "Associated factor" OR "Associated factors" OR "Associate factor" OR "Associate factors" OR "Odds ratio" OR "Cross-Product Ratio" OR "Cross Product Ratio" OR "Cross-Product Ratios" OR "Ratio, Cross-Product" OR "Ratios, Cross-Product" OR "Relative Odds" OR "Odds, Relative" OR "Risk Ratio" OR "Ratio, Risk" OR "Ratios, Risk" OR "Risk Ratios" OR "Odd ratio" OR "Epidemiologic") AND ("Iran" OR "Iranian" OR "Iranian people" OR "Iranian population"))

Appendix 41: Quality assessment of included studies

Number of studies	Author, year	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Total score
Study 1	Abbasalizad Farhangi,2016(1)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear		9/10
Study 2	Adibi ,2017(2)	Yes	Yes	Yes	Yes	No	No	Yes	Yes			6/8
Study 3	Alavian,2008(3)	Yes	No	Yes	Yes	No	No	Yes	Yes			5/8
Study 4	Amirkalali,2014(4)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8

Study 5	Bagheri Lankarani,2013 (2)(5)	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8/10
Study 6	Bagheri Lankarani,2013(6)	Yes	Yes	Yes	Yes	No	No	Yes	Yes			6/8
Study 7	Bahrami,2019(7)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 8	Birjandi,2016(8)	Yes	Yes	Yes	Yes	No	No	Yes	Yes			6/8
Study 9	Damavandi,2021(9)	Yes	No	Yes	Yes	Yes	No	No	Yes	Unclear	No	5/10
Study 10	Darand, M. 2019(10)	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8/10
Study 11	Dehghan, 2015(11)	Yes	No	Yes	Yes	No	No	Yes	Yes			5/8
Study 12	Dehghanseresht,2020(12)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 13	Doustmohammadian,2022(13)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8
Study 14	Ebrahimi Mousavi,2022(14)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 15	Emamat,2021(15)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8/10
Study 16	Entezari,2021(16)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 17	Eshraghian,2013(17)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8
Study 18	Fadaei,2018(18)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No		8/10
Study 19	Fattahi,2018(19)	Yes	Yes	Yes	Yes	No	No	Yes	Yes			6/8
Study 20	Ghaemi,2018(20)	No	Yes	Yes	Yes	No	No	Yes	Yes			5/8

Study 21	Hashemian,2021(21)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8
Study 22	Hekmatdoost,2016(22)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	9/10
Study 23	Honarvar, 2019(23)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8
Study 24	Khoshbaten,2009(24)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 25	Kolahi,2015(25)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	8/10
Study 26	Lotfi,2019(26)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 27	MansourGhanaei, 2018(27)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8
Study 28	Mohammadi,2011(28)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	7/10
Study 29	Mohammadifard,2019 (29)	Yes	No	Yes	Yes	No	No	Yes	Yes			5/8
Study 30	Mohseni,2016(30)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 31	Mokhtari, 2017(31)	Unclear	Unclear	No	Yes	No	Yes	Yes	Yes	Unclear	Yes	5/10
Study 32	Moradzad,2022(32)	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	7/10
Study 33	Mosallaei,2015(33)	Unclear	Yes	No	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	7/10
Study 34	Motamed,2016(34)	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes			7/8
Study 35	Motamed,2020 (35)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	9/10
Study 36	Najafi,2022(36)	Yes	No	No	Yes	Yes	No	No	Yes	Unclear	Yes	5/10

Study 37	Ostovaneh,2015(37)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8
Study 39	Pasdar,2016(38)	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9/10
Study 40	Pasdar,2017(39)	Unclear	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8/10
Study 41	Pasdar,2019(40)	Unclear	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8/10
Study 42	Radmard,2016(41)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			8/8
Study 43	Rezapour,2021(42)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 44	Salehi-Sahlabadi,2021(43)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 45	Savadkoochi,2002(44)	Yes	No	Yes	Yes	No	No	Yes	Yes			5/8
Study 46	Shanaki,2016(45)	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8/10
Study 47	Sohouli,2020(46)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10/10
Study 48	Sohouli,2021(47)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10/10
Study 49	Taheri,2022(48)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	9/10
Study 50	Totunchi,2021(1)(49)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8/10
Study 51	Totunchi,2021(2)(50)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 52	Totunchi,2021(3)(51)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	9/10
Study 53	Vahid,2019(52)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8/10

Study 54	Zarean,2019 (53)	Unclear	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unclear	Yes	8/10
Study 55	Zolfaghari,2016(54)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Unclear	Yes	7/10

JBI checklist questions for cross section studies: 1. Were the criteria for inclusion in the sample clearly defined? 2. Were the study subjects and the setting described in detail? 3. Was the exposure measured in a valid and reliable way? 4. Were objective, standard criteria used for measurement of the condition? 5. Were confounding factors identified? 6. Were strategies to deal with confounding factors stated? 7. Were the outcomes measured in a valid and reliable way? 8. Was appropriate statistical analysis used?

JBI checklist questions for case control studies: 1. Were the groups comparable other than the presence of disease in cases or the absence of disease in controls? 2. Were cases and controls matched appropriately? 3. Were the same criteria used for identification of cases and controls? 4. Was exposure measured in a standard, valid and reliable way? 5. Was exposure measured in the same way for cases and controls? 6. Were confounding factors identified? 7. Were strategies to deal with confounding factors stated? 8. Were outcomes assessed in a standard, valid and reliable way for cases and controls? 9. Was the exposure period of interest long enough to be meaningful? 10. Was appropriate statistical analysis used?

1. Abbasalizad Farhangi M, Mohseni F, Farajnia S, Jafarabadi MA. Major components of metabolic syndrome and nutritional intakes in different genotype of UCP2 -866G/A gene polymorphisms in patients with NAFLD. *J Transl Med.* 2016;14(1):177.
2. Adibi A, Maleki S, Adibi P, Etmnani R, Hovsepian S. Prevalence of nonalcoholic fatty liver disease and its related metabolic risk factors in Isfahan, Iran. *Advanced biomedical research.* 2017;6.
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