



Sunday, January 16, 2022 1:40:18 PM

#	Query	Limiters/Expanders	Last Run Via	Results
S34	S4 AND S5 AND S10	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	159
S33	S4 AND S7 AND S8	Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	1,947
S32	S4 AND S7 AND S10	Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	3,660
S31	S1 AND S5 AND S8	Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	199
S30	S4 AND S7 AND S8	Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	1,947
S29	S4 AND S7 AND S10	Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	3,660

S28	S4 AND S7 AND S10	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	4,877
S27		Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	19,910,688
S26	S4 AND S5 AND S8	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	106
S25		Limiters - Date of Publication: 20000101-20221231 Expanders - Apply related words; Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	20,001,347
S24		Limiters - Date of Publication: 20000101-20221231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	20,001,347
S23	S4 AND S7 AND S8	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	2,348
S22	S4 AND S7 AND S10	Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	3,660
S21	S4 AND S7 AND S10	Limiters - Date of	Interface - EBSCOhost	3,664

		Publication: 20000101-20221231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Research Databases Search Screen - Advanced Search Database - MEDLINE	
S20	S4 AND S7 AND S10	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	4,877
S19	S4 AND S7 AND S10	Limiters - Date of Publication: 20000101-20221231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	3,664
S18	S4 AND S7 AND S10	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	4,877
S17	S4 AND S5 AND S10	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	159
S16	((S8 OR S9) AND (S4 AND S7 AND S10)) AND (S4 AND S7 AND S10) AND (S1 AND S5 AND S8)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	98
S15	((S8 OR S9) AND (S4 AND S7 AND S10)) AND (S4 AND S7 AND S10)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	4,877
S14	(S8 OR S9) AND (S4 AND S7 AND S10)	Limiters - Date of Publication: 20000101-20211231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	3,660

S13	(S8 OR S9) AND (S4 AND S7 AND S10)	Limiters - Date of Publication: 20000101-20221231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	3,664
S12	(S8 OR S9) AND (S4 AND S7 AND S10)	Limiters - Date of Publication: 19910101-20221231 Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	4,166
S11	(S8 OR S9) AND (S4 AND S7 AND S10)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	4,877
S10	S8 OR S9	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	717,543
S9	(MH "Glucose") OR (MH "Blood Glucose") OR (MH "Glucose Metabolism Disorders") OR (MH "Blood Glucose Self-Monitoring")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	322,789
S8	AB (Weight/obesity Or Blood glucose Or Glucose control Or Metabolites Or Biological changes Or Blood biomarkers Or Glucose homeostasis Or HbA1c Or Glucose parameters Or FBG Or RBG Or Glucose homeostasis) OR TI (Weight/obesity Or Blood glucose Or Glucose control Or Metabolites Or Biological changes Or Blood biomarkers Or Glucose homeostasis Or HbA1c	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	479,919

	Or Glucose parameters Or FBG Or RBG Or Glucose homeostasis)			
S7	S5 OR S6	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	38,140
S6	(MH "Fasting")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	37,163
S5	AB (Ramadan fasting Or Islamic fasting Or Ramadan Intermittent fasting Or Intermittent fasting Or Ramadan diurnal intermittent fasting Or Diet, caloric restriction Or Recurrent Circadian fasting Or Ramadan model of intermittent fasting Or Intermittent prolonged fasting during Ramadan) OR TI (Ramadan fasting Or Islamic fasting Or Ramadan Intermittent fasting Or Intermittent fasting Or Ramadan diurnal intermittent fasting Or Diet, caloric restriction Or Recurrent Circadian fasting Or Ramadan model of intermittent fasting Or Intermittent prolonged fasting during Ramadan)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	2,224
S4	((MH "Diabetes Mellitus, Type 2") OR (MH "Diabetes Mellitus")) AND (S1 OR S2 OR S3)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	273,589
S3	(MH "Diabetes Mellitus, Type 2") OR (MH	Expanders - Apply equivalent subjects	Interface - EBSCOhost Research Databases	273,589

	"Diabetes Mellitus")	Search modes - Boolean/Phrase	Search Screen - Advanced Search Database - MEDLINE	
S2	AB (type 2 diabetes or "diabetes mellitus*") OR TI (type 2 diabetes or "diabetes mellitus*")	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	296,829
S1	AB (Type 2 diabetes Or T2D Or Diabetes Or Diabetes Mellitus, Type 2 (MeSH) Or Diabetes mellitus Or Insulin resistance Or Non- insulin dependent diabetes Or Adult-onset diabetes Or Young adults with diabetes Or Adolescents with T2D OR Diabetes Or Adults with diabetes Or Early onset diabetes) OR TI (Type 2 diabetes Or T2D Or Diabetes Or Diabetes Mellitus, Type 2 (MeSH) Or Diabetes mellitus Or Insulin resistance Or Non-insulin dependent diabetes Or Adult-onset diabetes Or Young adults with diabetes Or Adolescents with T2D OR Diabetes Or Adults with diabetes Or Early onset diabetes)	Expanders - Apply equivalent subjects Search modes - Boolean/Phrase	Interface - EBSCOhost Research Databases Search Screen - Advanced Search Database - MEDLINE	623,438

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("Type 2 diabetes" OR "Diabetes" OR "Young adults with diabetes" OR "Early-onset diabetes") AND ("Ramadan fasting" OR "Ramadan n3 fasting") AND ("Weight" OR blood glucose OR HbA1c OR "FBG" OR "RBG") AND ("Observational" OR " Cohort studies")

Europe PMC

("Type 2 diabetes" OR T2D OR Diabetes OR Diabetes Mellitus, Type 2 (MeSH) OR Diabetes mellitus (MeSH) OR Young adults with diabetes) AND ("Ramadan fasting" OR Islamic fasting OR "Ramadan Intermittent fasting" OR "Intermittent fasting" OR Ramadan "diurnal intermittent fasting" OR Muslim fasting OR "Ramadan n3 fasting")

Cochrane library:

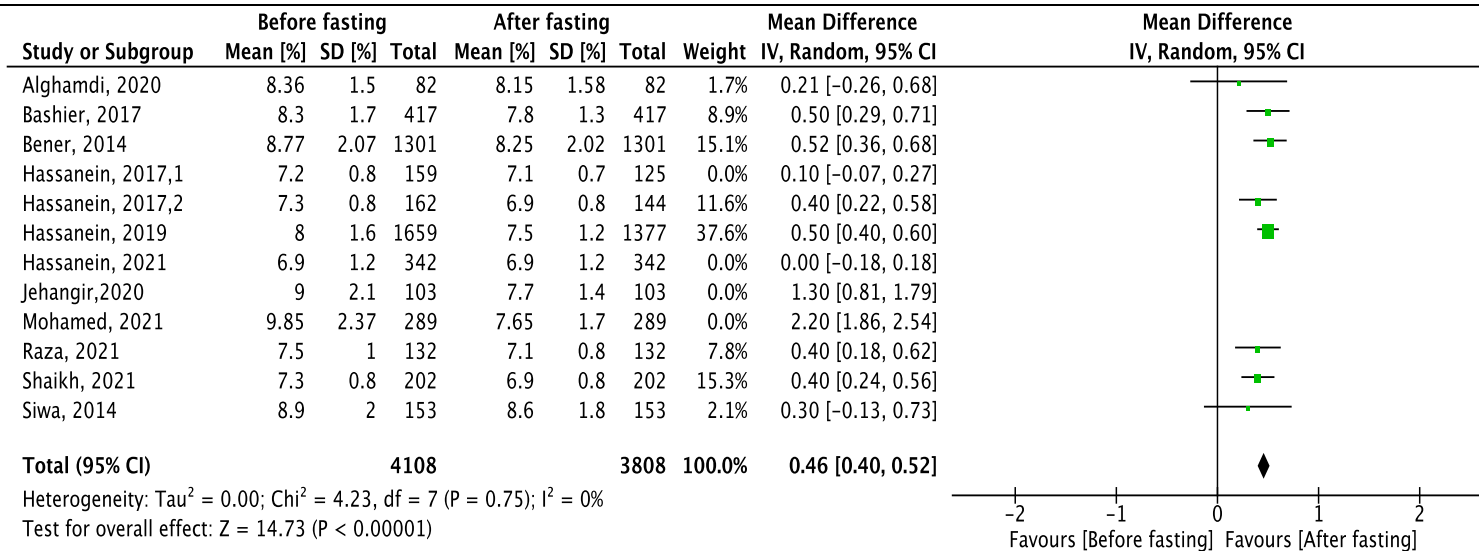
175 Trials matching "Ramadan fasting" OR Diurnal intermittent fasting OR intermittent fasting OR Islamic fasting in Title Abstract Keyword AND "type 2 diabetes" OR diabetes OR early onset diabetes OR "Non-insulin-dependent diabetes" OR "youth onset T2D" in Title Abstract Keyword AND Weight OR metabolic parameters OR fasting blood glucose OR glucose control OR Biological changes OR Blood biomarkers OR Glucose homeostasis OR HbA1c OR Glucose parameters OR Carbohydrate Metabolism (MeSH) OR FBG OR RBG in Title Abstract Keyword - (Word variations have been searched)

First author, year (country)	HbA1c						Weight (kg)						FBG/FPG (mg/dl) [mmol/l X 18]					
	Before			After			Before			After			Before			After		
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N
Hassanein, 2021	6.9	1.2	342	6.9	1.2	342	80.6	14.8	342	80	15.4	342						
Patel, 2007							70.6	16	334	70.1	16	334						
Bener, 2014	8.77	2.07	1301	8.25	2.02	1301							157.5	40.32	1301	143	39	1301
Jehangir,2020	9	2.1	103	7.7	1.4	103	68.3	16	103	66.5	14	103						
Mohamed, 2021	9.85	2.37	289	7.65	1.7	289												
Raza, 2021	7.5	1	132	7.1	0.8	132	82	13.1	191	81.3	13.6	191	127.3	34.8	60	118.2	26.2	60
Alghamdi, 2020	8.36	1.5	82	8.15	1.58	82	83.49	16.19	82	84.38	16.01	82	140	33.3	82	149	41.6	82
Hassanein, 2017,1(SU)	7.2	0.8	159	7.1	0.7	125	82.1	14.1	158	81.5	14	150						
Hassanein, 2017,2 (CANA)	7.3	0.8	162	6.9	0.8	144	87.1	14.8	162	85.3	14.3	155						
Hassanein, 2019	8	1.6	1659	7.5	1.2	1377	84.7	16	1745	84	14.4	1643	151.2	51.1	1512	134.4	37.9	1383
Siwa, 2014	8.9	2	153	8.6	1.8	153												
Shaikh, 2021	7.3	0.8	202	6.9	0.8	202	73.4	10.9	235	72.9	7.2	246	142.9	54	212	121.1	29.7	212
Bashier, 2017	8.3	1.7	417	7.8	1.3	417	83.9	17	417	83.8	16.6	417						

Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies

[illegible]

A



B

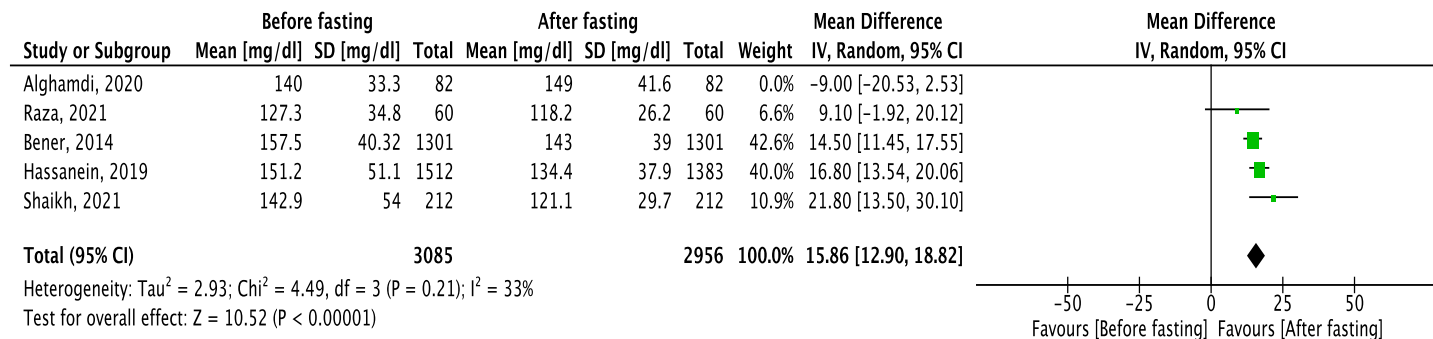


Figure 1: Sensitivity analysis for the HbA1c (A) and FBG (B) by evaluating the impact of each study on the overall effect size.

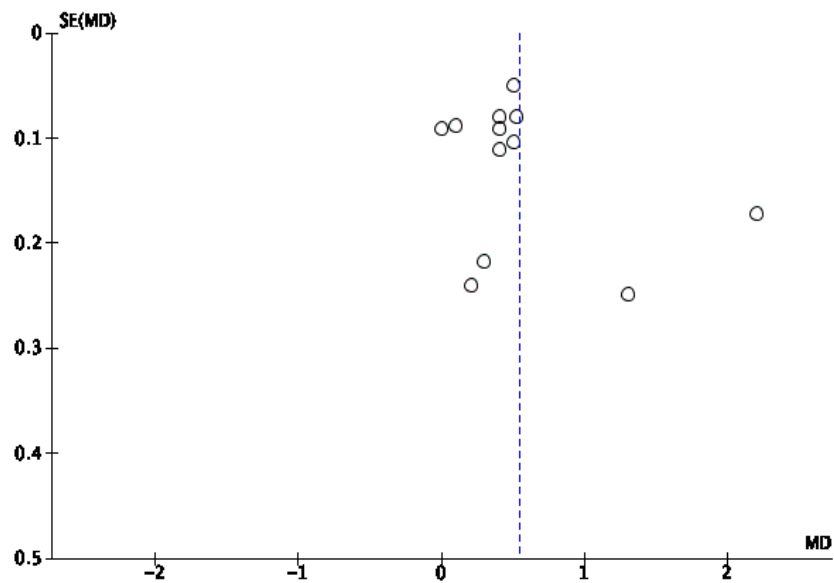
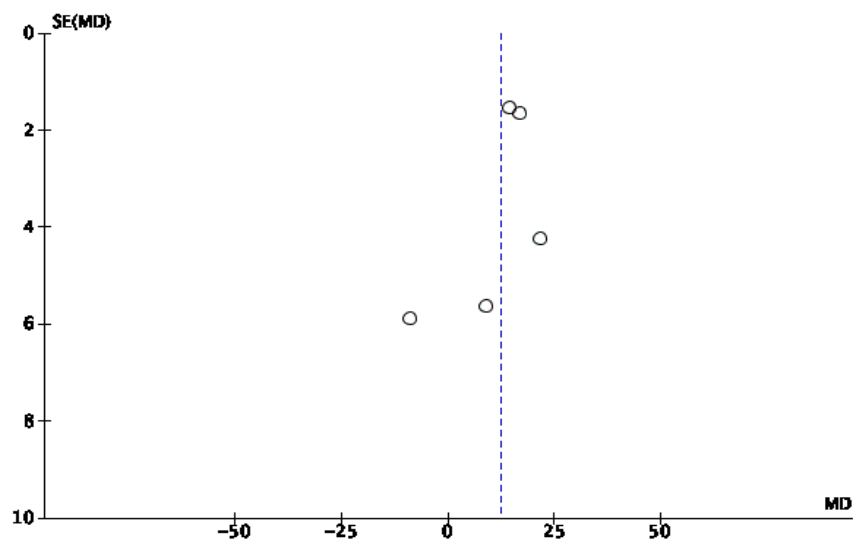


Figure S1: Funnel plot of studies that reported changes in HbA1c before and after Ramadan fasting. SE (standard error), MD (mean difference).



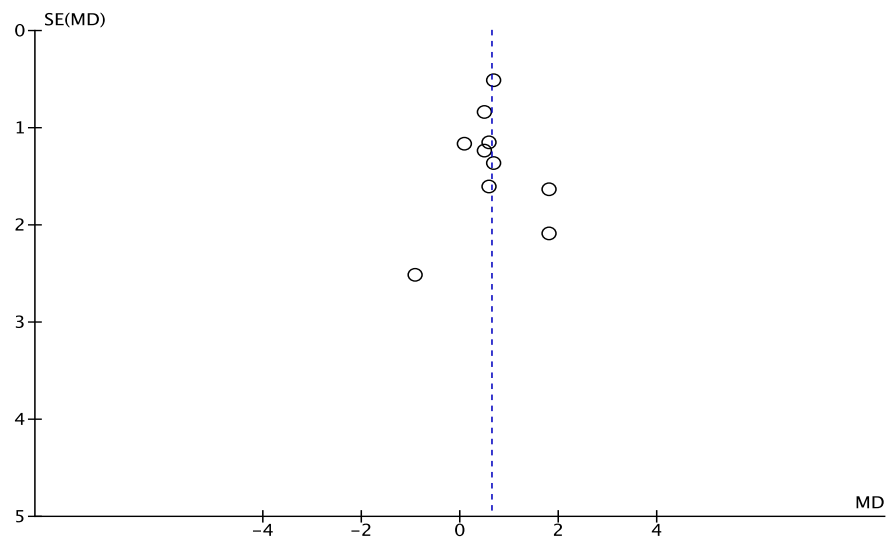


Figure S3: Funnel plot for the body weight changes in body weight before and after Ramadan fasting. SE (standard error), MD (mean difference).