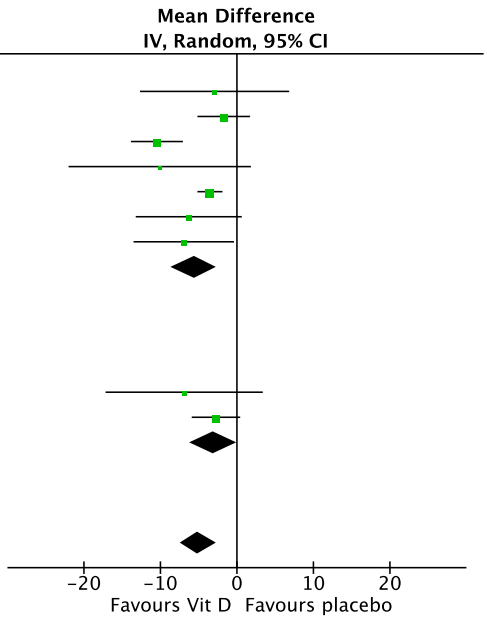Study or Subgroup	Vitamin D Mean	Vitamin D SD	Vitamin D Total	Control Mean	Control SD	Control Total	Weight	Mean Difference IV, Random, 95% CI	Year
2.11.1 Vit D deficient <30 ng/ml									
Amrein 2011	10.57	7.96	10	13.49	14.23	11	4.7%	−2.92 [−12.67, 6.83]	2011
Amrein 2014	11.58	14.03	159	13.3	17.23	161	16.1%	−1.72 [−5.16, 1.72]	2014
Hasanloei 2019	20.17	9.82	48	30.63	4.86	24	16.3%	−10.46 [−13.85, −7.07]	2019
Miri 2019	17.63	14	22	27.72	22.48	18	3.3%	−10.09 [−22.01, 1.83]	2019
Sharma 2020	4.7	2.17	20	8.23	2.62	15	22.0%	−3.53 [−5.16, −1.90]	2020
Ingels 2020	13	5.6	11	19.3	11.2	13	7.8%	−6.30 [−13.23, 0.63]	2020
Sistanizad 2021	15.69	9.25	16	22.64	9.06	14	8.4%	−6.95 [−13.51, −0.39]	2021
Subtotal (95% CI)			**286**			**256**	**78.7%**	**−5.56 [−8.54, −2.58]**	
Heterogeneity: Tau^2 = 8.51; Chi^2 = 17.46, df = 6 (P = 0.008); I^2 = 66%									
Test for overall effect: Z = 3.66 (P = 0.0003)									
2.11.2 Mixed baseline Vit D level									
Han 2016	13.1	10	20	20	15	10	4.3%	−6.90 [−17.18, 3.38]	2016
Bhattacharyya 2021	7.56	6.18	63	10.3	11.24	63	17.0%	−2.74 [−5.91, 0.43]	2021
Subtotal (95% CI)			**83**			**73**	**21.3%**	**−3.10 [−6.13, −0.07]**	
Heterogeneity: Tau^2 = 0.00; Chi^2 = 0.57, df = 1 (P = 0.45); I^2 = 0%									
Test for overall effect: Z = 2.01 (P = 0.04)									
Total (95% CI)			**369**			**329**	**100.0%**	**−5.07 [−7.42, −2.73]**	
Heterogeneity: Tau^2 = 5.79; Chi^2 = 18.80, df = 8 (P = 0.02); I^2 = 57%									
Test for overall effect: Z = 4.24 (P < 0.0001)									
Test for subgroup differences: Chi^2 = 1.29, df = 1 (P = 0.26), I^2 = 22.3%