

Online Supplementary Material

Allen RW, Schwartzman E, Baker WL, Coleman CI, Phung OJ. Cinnamon use in type 2 diabetes: an updated systematic review and meta-analysis. *Ann Fam Med*. 2013;11(5):452-459.

<http://www.annfammed.org/content/11/5/452>

Supplemental Table. Baseline Characteristics of Randomized Controlled Trials Evaluating Cinnamon Use									
Study Name, Year, N	Inclusion Criteria	Follow-Up, wk	Intervention Evaluated	Product Name, Form, Brand	Population Characteristics	Duration of DM, y	Baseline A <sub>1c</sub> (%) FPG (mg/dL)	Baseline Weight, kg BMI (kg/m <sup>2</sup> )	Baseline Lipid Profile (mg/dL)
Khan, 2003 N=30	T2DM > 40 y BG 140-400 mg/dL Tx with OHA	8	Cinnamon 500 mg bid (1 g/d) n=5	C. cassia, fine ground Mehran Traders Pharmaceutical Suppliers, Pakistan	Age, y: 52.0 ± 5.85 Male: 50%	7.10 ± 3.29	NR 208.8 ± 30.6	NR NR	TC: 191.49 ± 8.97 HDL-C: NR LDL-C: 103.74 ± 4.68 TG: 200.28 ± 31.15
			Cinnamon 500 mg 6x/d (3 g/d) n=5	C. cassia, fine ground Mehran Traders Pharmaceutical Suppliers, Pakistan	Age, y: 52.0 ± 5.85 Male: 50%	7.10 ± 3.29	NR 205.5 ± 21.6	NR NR	TC: 214.89 ± 11.31 HDL-C: NR LDL-C: 108.03 ± 7.02 TG: 244.75 ± 26.7
			Cinnamon 500 mg 12x/d (6 g/d) n=5	C. cassia, fine ground Mehran Traders Pharmaceutical Suppliers, Pakistan	Age, y: 52.0 ± 5.85 Male: 50%	7.10 ± 3.29	NR 234 ± 25.2	NR NR	TC: 206.7 ± 8.58 HDL-C: NR LDL-C: 111.93 ± 7.02 TG: 220.72 ± 34.71
			Placebo 500 mg bid (1 g/d) n=5	Wheat flour	Age, y: 52.0 ± 6.87 Male: 50%	6.73 ± 2.32	NR 219.6 ± 18	NR NR	TC: 178.62 ± 10.92 HDL-C: NR LDL-C: 89.7 ± 8.58 TG: 205.59 ± 28.48
			Placebo 500 mg 6x/d (3 g/d) n=5	Wheat flour	Age, y: 52.0 ± 6.87 Male: 50%	6.73 ± 2.32	NR 223.2 ± 18	NR NR	TC: 187.59 ± 11.7 HDL-C: NR LDL-C: 99.84 ± 9.75 TG: 211.82 ± 25.81

Online Supplementary Data

http://www.annfammed.org/content/11/5/452/DC1

			Placebo 500 mg 12x/d (6 g/d) n = 5	Wheat flour	Age, y: 52.0 ± 6.87 Male: 50%	6.73 ± 2.32	NR 300.6 ± 25.2	NR NR	TC: 214.89 ± 15.99 HDL-C: NR LDL-C: 118.17 ± 12.09 TG: 226.82 ± 30.26
<b>Mang, 2006 N = 65</b>	T2DM Tx with OHA or diet	16	Cinnamon 1 g tid (3 g/d) n = 33	Aqueous cinnamon extract TC112, capsule Finzelberg, Andernach, Germany	Age, y: 62.8 ± 8.37 Male: 63.6%	7.1 ± 6.2	6.86 ± 1.0 166.68 ± 40.68	88.5 ± 19.1 29.6 ± 4.64	TC: 209.82 ± 34.71 HDL-C: 56.16 ± 19.11 LDL-C: 135.72 ± 27.69 TG: 174.44 ± 146.85
			Placebo 1 g tid (3 g/d) n = 32	Microcrystalline cellulose, capsule	Age, y: 63.7 ± 7.17 Male: 71.9%	6.8 ± 4.7	6.71 ± 0.73 155.88 ± 26.46	89.9 ± 14.1 30.1 ± 5.22	TC: 178.62 ± 10.92 HDL-C: 52.26 ± 12.09 LDL-C: 140.01 ± 26.91 TG: 147.74 ± 69.42
<b>Suppapi- porn, 2006 N = 60</b>	T2DM Fixed-dose antidiabetic therapy for ≥3 mo 30-70 y FPG 120-180 mg/dL A <sub>1c</sub> > 7% within 1 mo of study Contraception for females	12	Cinnamon 1.5 g tid (4.5 g/d) n = 20	C. cassia, capsule	Age, y: 59.90 ± 8.65 Male: 40%	4.65 ± 2.3	8.14 ± 1.10 154.4 ± 24.72	63.70 ± 9.59 54.84 ± 1.79	TC: 196.15 ± 44.49 HDL-C: 53.4 ± 10.93 LDL-C: NR TG: 141.10 ± 54.27
			Placebo 1.5 g tid (4.5 g/d) n = 40	Not specified	Age, y: 58.53 ± 8.69 Male: 50%	4.40 ± 2.2	8.06 ± 1.05 144.13 ± 28.07	63.55 ± 6.86 24.86 ± 1.20	TC: 173.45 ± 34.12 HDL-C: 52.85 ± 13.66 LDL-C: NR TG: 129.30 ± 46.37
<b>Vanschoon- beck, 2006 N = 25</b>	T2DM Postmenopausal women Tx with OHA or diet	6	Cinnamon 0.5 g tid (1,500 mg/d) n = 12	C. cassia, capsule Verstegen	Age, y: 62 ± 6.92 Male: 0%	7.6 ± 4.84	7.4 ± 1.03 150.66 ± 36.72	85.4 ± 12.47 30.7 ± 3.81	TC: 196.95 ± 19.89 HDL-C: 55.38 ± 12.09 LDL-C: 119.34 ± 19.89 TG: 111.25 ± 51.62
			Placebo 0.5 g tid (1,500 mg/d) n = 13	Wheat flour, capsule Verstegen	Age, y: 64 ± 7.21 Male: 0%	7.1 ± 5.76	7.1 ± 5.76 149.04 ± 21.40	82.2 ± 14.42 30.1 ± 5.04	TC: 191.49 ± 42.12 HDL-C: 50.31 ± 15.21 LDL-C: 118.56 ± 35.1 TG: 113.92 ± 44.5
<b>Blevins, 2007 N = 57</b>	T2DM	12	Cinnamon 500 mg bid (1 g/d) n = 29	C. cassia powder	NR	NR	7.2 ± 0.3 132.9 ± 9.3	NR 32.5 ± 1.7	TC: 170.2 ± 8.1 HDL-C: 43.9 ± 1.5 LDL-C: 101.5 ± 6.7 TG: 132.4 ± 15.5

Online Supplementary Data

http://www.annfammed.org/content/11/5/452/DC1

			Placebo n = 28	Wheat flour	NR	NR	7.1 ± 0.2 144.7 ± 10.4	NR 32 ± 1.5	TC: 176.3 ± 8 HDL-C: -2.2 ± 1.7 LDL-C: 105.1 ± 6.7 TG: 155.7 ± 22.8
<b>Crawford, 2009</b> <b>N = 109</b>	T2DM A <sub>1c</sub> ≥ 7% 6 mo before enrollment	12	Cinnamon 500 mg bid (1 g/d) n = 55 Control N = 54	C. cassia, capsule Puritan's Pride	Age, y: 60.5 ± 10.7 Male: 23%	NR	8.47 ± 1.8 NR	NR 31.9 ± 6.4	NR
<b>Akilen, 2010</b> <b>N = 58</b>	T2DM ≥ 18 y A <sub>1c</sub> ≥ 7% Tx with OHA	12	Cinnamon 500 mg QID (2 g/d) n = 30 Placebo n = 28	C. cassia bark powder Holland & Barret LTD Starch Holland & Barret LTD	Age, y: 54.9 ± 10.14 Male: 36.6%	5.76 ± 4.93	8.22 ± 1.16 158.7 ± 62.1	87.6 ± 17.51 33.36 ± 4.2	TC: 168.09 ± 41.73 HDL-C: 46.02 ± 11.31 LDL-C: 96.3 ± 37.44 TG: 146.85 ± 82.77
<b>Khan, 2010</b> <b>N = 14</b>	T2DM Both sexes > 40 y  BG ≥ 125 mg/dL Not on insulin	4	Cinnamon 0.5 g tid (1,500 mg/d) n = 7 Placebo 0.5 g tid (1,500 mg/d) n = 7	Raw unspecified  Maize flour	Age, y: ≥ 40 Male: NR	NR	NR 216.3 ± 52.7	NR NR	TC: 182.4 ± 40.7 HDL-C: 35.3 ± 3.5 LDL-C: 109.7 ± 38.1 TG: 186.1 ± 24.2
<b>Wainstein, 2011</b> <b>N = 59</b>	T2DM ≥ 30 y ≥ 3 mo before study A <sub>1c</sub> 6.5%-10.5%, Tx with metformin and/or sulfonylurea and lifestyle interventions	18	Cinnamon 0.4 g 2 capsules tid for 4-6 wk (2,400 mg/d) then cinnamon 0.4 mg, 1 capsule tid for 6-8 wk (1,200 mg/d) n = 29	Fresh ground C. cassia + zinc gluconate + tricalcium phosphate, capsule R.T. Health Products Ltd	Age, y: 61.7 ± 6.3 Male: 48.3%	8.7 ± 5.8	7.4 ± 0.7 151.6 ± 33.7	85.1 ± 15.1 29.8 ± 4.3	TC: 173.7 ± 45.3 HDL-C: 49.3 ± 13.3 LDL-C: 101.4 ± 41 TG: 161.96 ± 53.3

Online Supplementary Data

http://www.annfammed.org/content/11/5/452/DC1

			Placebo 0.4 g 2 capsules tid for 4-6 wk (2,400 mg/d) then placebo 0.4 mg 1 capsule tid for 6-8 wk (1,200 mg/d) n = 29	Microcrystalline cellulose, capsule R.T Health Products Ltd	Age, y: 64.4 ± 15.4 Male: 70%	7.6 ± 6.2	7.7 ± 0.9 158.3 ± 49.1	88.8 ± 21.2 30.9 ± 6.9	TC: 159.4 ± 32.3 HDL-C: 46.4 ± 9.5 LDL-C: 84.5 ± 18.7 TG: 147.1 ± 65.8
<b>Lu, 2012</b> <b>N = 66</b>	T2DM A <sub>1c</sub> > 7.0% FBG > 144 mg/dL	12	Cinnamon 120 mg/d n = 23	<i>Cinnamomum</i> <i>aromaticum</i> Shanghai Yitian Bio-Scientific Co, Ltd	Age, y: 62.4 ± 7.9 Male: 65%	NR	8.90 ± 1.24 162 ± 22.14	NR	TC: 193.44 ± 52.65 HDL-C: 47.97 ± 14.04 LDL-C: 103.35 ± 29.64 TG: 260.77 ± 185.12
			Cinnamon 360 mg/d n = 23	<i>Cinnamomum</i> <i>aromaticum</i> Shanghai Yitian Bio-Scientific Co, Ltd	Age, y: 58.9 ± 6.4 Male: 61%	NR	8.92 ± 1.35 201.78 ± 39.78	NR	TC: 202.02 ± 30.42 HDL-C: 60.84 ± 19.11 LDL-C: 122.46 ± 23.4 TG: 154.86 ± 93.45
			Placebo n = 20	NR	Age, y: 60 ± 5.9 Male: 60%	NR	8.93 ± 1.14 160.56 ± 21.78	NR	TC: 179.4 ± 40.56 HDL-C: 55.77 ± 19.5 LDL-C: 105.3 ± 33.54 TG: 149.52 ± 59.63

Abbreviations: A<sub>1c</sub> = glycated hemoglobin; BG = blood glucose; bid = twice daily; BMI = body mass index; DM = diabetes mellitus; FPG = fasting plasma glucose; HDL-C = high-density lipoprotein cholesterol; LDL-C = low-density lipoprotein cholesterol; N = sample size; NR = not reported; OHA = oral hypoglycemic agent; QID = 4 times daily; T2DM = type 2 diabetes mellitus; TC = total cholesterol; TG = triglycerides; tid = 3 times daily; Tx = treatment