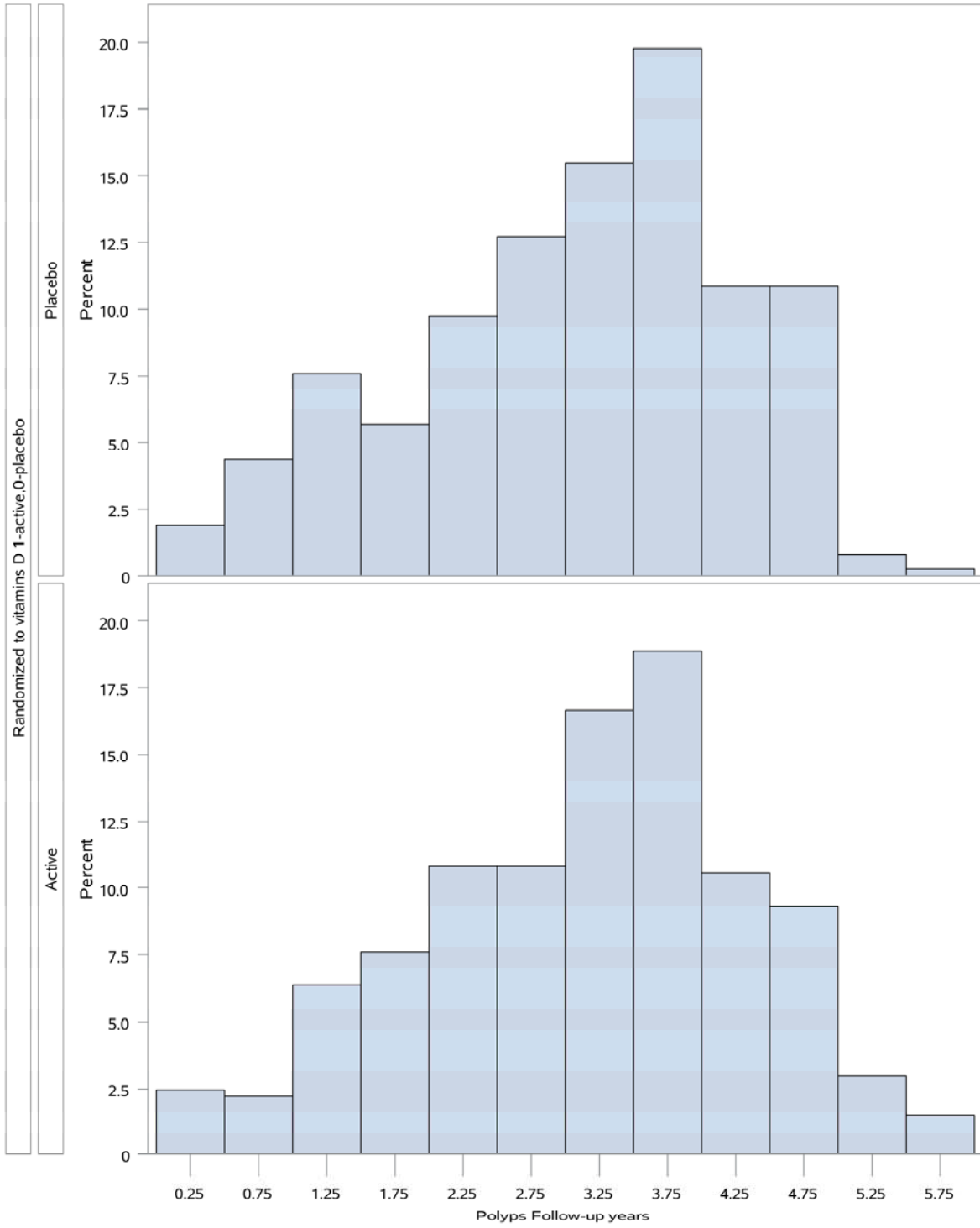**Supplementary Figure 1.** The distribution of interval (in years) between randomization and polyp diagnosis in the vitamin D and placebo groups

Supplementary Table 1. Association of vitamin D supplementation with risk of advanced and nonadvanced conventional adenomas according to serum 25(OH)D level at randomization[a]

	Advanced conventional adenomas		Nonadvanced conventional adenomas	
	Placebo group	Vitamin D group	Placebo group	Vitamin D group
Serum 25(OH)D <30 ng/mL				
No. of cases	22	13	66	58
OR (95% CI)[a]	1 (ref)	0.60 (0.30-1.20)	1 (ref)	0.89 (0.63-1.27)
Serum 25(OH)D ≥30 ng/mL				
No. of cases	21	32	88	100
OR (95% CI)[a]	1 (ref)	1.50 (0.87-2.61)	1 (ref)	1.12 (0.84-1.50)
P for interaction[b]		0.04		0.32

Abbreviations: CI, confidence interval; OR, odds ratio.

[a]Logistic regression was adjusted for age, sex, fish oil treatment assignment, and use of colonoscopy or sigmoidoscopy in the past 10 years prior to randomization.

[b]P for interaction was calculated by Wald test for the product term between vitamin D randomization assignment and baseline serum 25(OH)D level (binary).

Supplementary Table 2. Association of vitamin D supplementation with risk of conventional adenomas and serrated polyps according to histopathological features

	Conventional adenomas			Serrated polyps		
	No. of cases in placebo group	No. of cases in vitamin D group	OR (95% CI)[a]	No. of cases in placebo group	No. of cases in vitamin D group	OR (95% CI)[a]
Size						
<10mm	215	225	1.05 (0.87-1.27)	116	130	1.12 (0.87-1.44)
≥10mm	52	62	1.20 (0.83-1.74)	29	34	1.18 (0.72-1.93)
P for heterogeneity[c]			0.67			0.96
Location						
Proximal colon	149	150	1.01 (0.80-1.27)	53	69	1.30 (0.91-1.87)
Distal colon	54	72	1.34 (0.94-1.91)	42	38	0.91 (0.58-1.41)
Rectum	18	14	0.78 (0.39-1.57)	40	28	0.70 (0.43-1.14)
Multiple location	66	72	1.10 (0.78-1.53)	34	37	1.09 (0.68-1.74)
P for heterogeneity[c]			0.53			0.27
Multiplicity						
Single	152	154	1.02 (0.81-1.27)	89	90	1.01 (0.75-1.36)
Multiple	127	149	1.18 (0.93-1.50)	70	76	1.09 (0.79-1.51)
P for heterogeneity[c]			0.48			0.81
Histology						
Tubular adenoma	242	262	1.09 (0.91-1.30)	-	-	-
Tubulovillous adenoma	18	25	1.39 (0.76-2.56)	-	-	-
Villous or high-grade dysplasia	9	9	1.00 (0.40-2.53)	-	-	-
P for heterogeneity[c]			0.77	-	-	-
Risk stratification						
Advanced[b]	64	77	1.21 (0.87-1.69)	-	-	-
Non-advanced[b]	223	231	1.04 (0.86-1.25)	-	-	-
P for heterogeneity[c]			0.50	-	-	-

Abbreviations: CI, confidence interval; OR, odds ratio.

[a]Logistic regression was adjusted for age, sex, fish oil treatment assignment, and use of colonoscopy or sigmoidoscopy in the past 10 years prior to randomization.

[b]Advanced conventional adenomas were defined as those having at least 1 conventional adenoma of 10 mm or greater in diameter or with advanced histology (tubulovillous/villous histologic features or high-grade or severe dysplasia).

[c]*P* for heterogeneity was calculated by case-only analysis.

Supplementary Table 3. Stratified association of vitamin D supplementation with risk of conventional adenomas and serrated polyps[a]

	Conventional adenomas			Serrated polyps		
	No. of cases in placebo group	No. of cases in vitamin D group	OR (95% CI)	No. of cases in placebo group	No. of cases in vitamin D group	OR (95% CI)
Age, year						
<60	35	44	1.28 (0.82-2.01)	24	27	1.13 (0.65-1.97)
60-69	185	194	1.05 (0.86-1.29)	111	112	1.01 (0.78-1.32)
≥70	67	70	1.05 (0.75-1.48)	34	33	0.98 (0.61-1.59)
P for interaction[b]			0.75			0.92
Sex						
Women	126	125	0.99 (0.77-1.27)	77	72	0.93 (0.68-1.29)
Men	161	183	1.15 (0.93-1.42)	92	100	1.09 (0.82-1.45)
P for interaction[b]			0.38			0.48
Race/ethnicity						
Non-Hispanic white	229	247	1.08 (0.90-1.30)	136	140	1.03 (0.81-1.31)
African American	28	31	1.11 (0.66-1.85)	17	15	0.88 (0.44-1.77)
Others	23	26	1.12 (0.63-1.97)	12	15	1.21 (0.56-2.61)
P for interaction[b]			0.99			0.82
Family history of colorectal cancer						
No	240	239	1.00 (0.83-1.20)	142	140	0.99 (0.78-1.25)
Yes	33	48	1.44 (0.92-2.25)	22	27	1.20 (0.68-2.12)
P for interaction[b]			0.14			0.54
Body mass index, kg/m^2						
<25	84	92	1.12 (0.83-1.51)	49	48	1.00 (0.67-1.49)
25-29.9	121	118	0.98 (0.76-1.27)	68	67	0.99 (0.70-1.39)
≥30	77	89	1.14 (0.84-1.55)	51	51	0.98 (0.66-1.45)
P for interaction[b]			0.69			0.99
Physical activity, MET-hours/week						
<15	115	146	1.27 (0.99-1.63)	59	73	1.24 (0.88-1.75)
≥15	171	159	0.94 (0.75-1.17)	106	99	0.94 (0.72-1.24)
P for interaction[b]			0.07			0.23
Smoking						
Never	140	166	1.20 (0.96-1.51)	72	81	1.14 (0.83-1.56)
Past	129	117	0.90 (0.70-1.16)	80	72	0.90 (0.65-1.24)
Current	16	23	1.42 (0.75-2.71)	12	18	1.49 (0.71-3.12)
P for interaction[b]			0.17			0.35
Alcohol use						
<1/week	83	93	1.14 (0.84-1.53)	51	47	0.93 (0.62-1.38)
≥1/week	202	212	1.05 (0.86-1.28)	117	125	1.07 (0.83-1.38)
P for interaction[b]			0.67			0.56
Aspirin use						

No	133	164	1.23 (0.98-1.55)	79	101	1.28 (0.95-1.72)
Yes	151	142	0.95 (0.75-1.20)	84	69	0.83 (0.60-1.14)
P for interaction[b]			0.12			0.05
Use of vitamin D supplements at randomization						
No	159	165	1.03 (0.83-1.29)	89	90	1.01 (0.75-1.35)
Yes	128	143	1.14 (0.89-1.45)	80	82	1.05 (0.77-1.43)
P for interaction[b]			0.56			0.86
Randomization in the n-3 fatty acid portion of trial						
Placebo group	136	165	1.22 (0.97-1.54)	82	85	1.04 (0.77-1.41)
Active-agent group	151	143	0.95 (0.75-1.19)	87	87	1.00 (0.74-1.35)
P for interaction[b]			0.13			0.86
History of colonoscopy/sigmoidoscopy in the past 10 years						
No	58	78	1.36 (0.97-1.92)	39	50	1.30 (0.85-1.98)
Yes	229	230	1.00 (0.83-1.21)	130	122	0.94 (0.73-1.20)
P for interaction[b]			0.12			0.19
History of polyps at randomization						
No	271	296	1.10 (0.93-1.30)	164	166	1.01 (0.82-1.26)
Yes	16	12	0.75 (0.35-1.58)	5	6	1.21 (0.37-3.98)
P for interaction[b]			0.33			0.79

Abbreviations: CI, confidence interval; DHA, docosahexaenoic acid; EPA, eicosapentaenoic acid; MET, metabolic equivalent; OR, odds ratio.

[a] All stratified variables were assessed at baseline enrollment. Logistic regression was used to calculate the odds ratio with adjustment for age, sex, fish oil treatment assignment, and use of colonoscopy or sigmoidoscopy in the past 10 years prior to randomization.

[b] *P* for interaction was calculated by Wald test for the product term between intervention assignment and the stratified variable.