

Supplementary Online Content

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eTable. Semen Quality, Testis Size, and Reproductive Hormone Levels Among Young Danish Men Stratified by Intake of Multivitamin, Vitamin C, or Vitamin D Supplements

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable. Semen Quality, Testis Size, and Reproductive Hormone Levels Among Young Danish Men Stratified by Intake of Multivitamin, Vitamin C, or Vitamin D Supplements

Variables	All N=1679	Intake of supplements				
		None N=1125	Fish oil N=98	Multivitamin N=210	Vitamin C N=25	Vitamin D N=70
Semen quality:						
Testis size (ml) US ¹	13 (11;16)	13 (11;16)	14 (12;17)	14 (11;16)	13 (11;16)	14 (12;16)
Semen volume (ml)	3.2 (2.3;4.2)	3.1 (2.3;4.0)	3.6 (3.0;4.7)	3.5 (2.6;4.3)	3.4 (3.0;4.8)	3.4 (2.2;4.2)
Sperm concentration (mill/ml)	42 (20;73)	42 (20;71)	46 (20;85)	43 (20;87)	45 (15;65)	38 (20;72)
Total sperm count (mill)	129 (59;233)	124 (56;224)	166 (74;308)	151 (64;287)	108 (43;233)	127 (56;239)
Progressive motile sperm (%)	62.7 (50.0;71.3)	62.7 (50.3;71.3)	63.2 (50.2;71.8)	60.0 (48.7;70.0)	63.7 (48.5;77.0)	60.3 (47.7;71.5)
Morphologically normal forms (%)	6.5 (3.5;9.5)	6.5 (3.5;9.5)	7.5 (4.1;9.5)	6.8 (3.5;11.0)	6.5 (2.5;10.8)	6.0 (3.9;9.0)
Period of abstinence (hours)	61 (57;82)	61 (56;82)	61 (58;84)	61 (58;84)	65 (59;86)	60 (55;78)
Duration between time of ejaculation and analysis of the sample (% > 1 hour)	7.7	6.8	18.5	11.3	8.0	8.7
N (%) below WHO reference levels						
Semen volume<1.5 ml	109 (6.5)	84 (7.5)	2 (2.0)	10 (4.8)	1 (4.0)	8 (11.4)
Sperm concentration<15 mill/ml	313 (18.7)	212 (18.9)	15 (15.5)	39 (18.7)	6 (24.0)	11 (15.9)
Total sperm count <39 mill	211 (16.7)	192 (17.2)	12 (12.4)	33 (15.8)	5 (20.0)	10 (14.5)
Percent progressive motile<32	139 (8.4)	88 (7.9)	10 (10.2)	16 (7.7)	3 (12.0)	8 (11.4)
Percent morphological normal<4	435 (26.3)	286 (25.9)	22 (22.9)	52 (25.2)	9 (36.0)	17 (24.3)
Reproductive hormones						
FSH (IU/L)	2.7 (1.8;3.8)	2.7 (1.8;3.8)	2.4 (1.7;3.3)	2.7 (1.8;4.0)	2.8 (2.0;3.6)	2.7 (1.8;3.8)
LH (IU/L)	3.3 (2.5;4.5)	3.4 (2.5;4.6)	3.1 (2.1;4.3)	3.3 (2.5;4.3)	2.8 (2.1;4.0)	3.2 (2.3;4.2)
Testosterone (nmol/L)	20.9 (17.1;24.6)	21.1 (12.6;32.2)	20.6 (16.9;24.1)	20.6 (17.2;25.1)	20.0 (16.8;24.4)	20.6 (16.3;24.1)
SHBG (nmol/L)	34 (26;43)	34 (26;43)	33 (26;42)	32 (26;41)	36 (30;48)	34 (26;41)
Free testosterone (pmol/L)	437 (361;519)	441 (362;523)	434 (365;514)	447 (363;526)	409 (360;475)	431 (370;499)
Inhibin B (pg/mL)	170 (82;281)	170 (134;213)	157 (133;198)	159 (131;204)	175 (126;201)	172 (126;210)
Estradiol (nmol/L)	83 (64;102)	83 (64;102)	87 (71;109)	85 (70;106)	88 (66;102)	87 (69;105)
Free testosterone/LH	132 (96;178)	131 (94;176)	146 (105;197)	135 (98;184)	149 (102;198)	139 (98;193)
Inhibin B/FSH	65 (37;109)	63 (37;109)	66 (40;114)	61 (34;107)	58 (29;97)	58 (39;100)
Free testosterone/estradiol	5.3 (4.3;6.7)	5.3 (4.4;6.7)	5.1 (4.1;6.3)	5.2 (4.1;6.2)	5.1 (4.0;6.0)	5.0 (4.1;6.0)

Time of blood sampling	10:20 (9:40;11:10)	9:50 (9:15;10:35)	10:41 (10:05;11:20)	10:00 (9:20;10:40)	10:33 (9:55;11:25)	10:00 (9:35;11:05)
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¹Mean of the two testes.

Abbreviation, N; number of men, US; Ultrasound.