

# ASSOCIATIONS BETWEEN DIETARY VITAMIN D INTAKE AND REPRODUCTIVE PARAMETERS IN HEALTHY YOUNG MALES

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## BACKGROUND

The role of vitamin D on the male reproductive system is still controversial. The majority of the studies have investigated the relationships vitamin D serum levels and male reproductive parameters. However, studies evaluating the associations between vitamin D dietary intake and reproductive parameters are very scarce.

## AIM

To assess the association between dietary intake of vitamin D and semen quality and reproductive hormone levels in healthy young males.

## MATERIALS & METHODS

Cross-sectional study of 209 healthy male university students (18-23 years old) recruited between 2010-2011 in Murcia Region (Spain). Diet was assessed using a validated food frequency questionnaire. Lineal regression was used to analyze the relation between vitamin D dietary intake and reproductive parameters.

Statistical models were controlled for potential cofounders and covariates (e.g. BMI, season, total calorie intake, smoking, ejaculation abstinence).

## RESULTS

No significant associations between dietary intake of vitamin D and semen parameters or reproductive hormone levels were found.

## CONCLUSIONS

Our findings show that dietary intake of vitamin D may not have an impact on reproductive parameters in young men.

Variable	Q1 (n=54)	Q2 (n=52)	Q3 (n=54)	Q4 (n=49)	ALL MEN (n=209)	P-value <sup>a</sup>
Vitamin D dietary intake (µg)	1,9 (1,3; 2,2)	2,9 (2,6; 3,2)	4,1 (3,8; 4,5)	7,4 (6,1; 9,4)	3,5 (2,4; 4,9)	
Semen Volume (mL)	2,8 (1,7; 4,1)	3,0 (2,5; 3,8)	3,0 (2,2; 4,0)	3,3 (1,9; 4,1)	3,0 (2,0; 4,0)	<b>0,72</b>
Sperm Concentration (Mill/mL)	42,9 (22,6; 71,6)	43,6 (29,8; 72,2)	49,0 (22,1; 81,5)	35,1 (14,9; 61,8)	43,4 (22,0; 72,3)	<b>0,42</b>
Progressive Motility (PR) (%)	48,9 (42,4; 54,5)	49,8 (41,2; 58,3)	48,3 (41,3; 56,3)	46,3 (40,2; 52,3)	48,3 (41,4; 55,3)	<b>0,52</b>
Progressive+ Non-progressive Motility (PR+NP) (%)	57,7 (49,8; 65,4)	58,8 (49,9; 65,8)	57,3 (50,5; 63,5)	55,3 (52,2; 60,0)	57,2 (50,7; 63,8)	<b>0,64</b>
Normal Morphology (%)	9,0 (6,0; 13,0)	10,0 (5,2; 15,0)	9,0 (6,0; 11,5)	8,5 (6,0; 14,0)	9,0 (6,0; 14,0)	<b>0,94</b>
Total Sperm Count (Mill)	120 (67,7; 183)	137 (84,9; 227)	135 (55,5; 267)	95,5 (51,3; 174,8)		<b>0,14</b>
FSH (IU/L)	2,1 (1,5; 3,0)	2,7 (1,8; 3,8)	2,3 (1,9; 3,5)	2,1 (1,4; 3,0)	2,2 (1,6; 3,4)	<b>0,10</b>
LH (IU/L)	3,8 (2,7; 5,3)	4,1 (2,9; 5,6)	4,1 (3,2; 5,7)	3,9 (2,9; 5,0)	4,0 (2,9; 5,2)	<b>0,43</b>
Total Testosterone (nmol/L)	20,1 (17,0; 26,2)	21,6 (17,8; 27,2)	20,7 (17,2; 26,2)	21,3 (16,3; 26,5)	21,2 (17,1; 26,6)	<b>0,66</b>
Calculated free testosterone (ng/dL)	13,5 (9,9; 16,1)	13,4 (11,5; 17,5)	13,9 (10,9; 16,5)	13,3 (10,3; 17,4)	13,5 (10,8; 17,0)	<b>0,78</b>
Inhibin B (pg/mL)	185 (149; 235)	175 (140; 233)	185 (143; 259)	206 (157; 278)	193 (147; 246)	<b>0,29</b>
Estradiol (pmol/L)	77,0 (59,7; 89,5)	76,5 (65,2; 93,0)	73,0 (65,7; 88,7)	76,0 (60,5; 94,5)	76,0 (63,0; 91,0)	<b>0,96</b>
SHBG (nmol/L)	29,0 (21,0; 37,3)	30,0 (23,0; 39,8)	31,0 (23,0; 38,0)	30,0 (22,0; 39,5)	30,0 (22,5; 38,5)	<b>0,86</b>