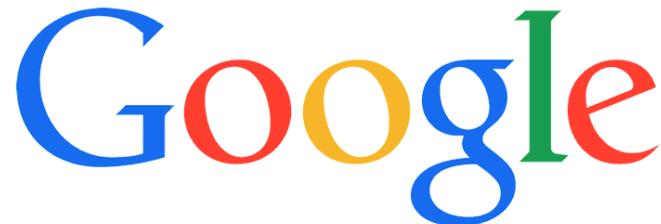


# Antioksidansi i oplodni potencijal sjemena

dr.sc. Miro Šimun Alebić dr. med



Google

što moj muž može učiniti da poboljša kvalitetu sjemena

Sve Slike Videozapisi Karte Više ▾ Alati za pretraživanje

Oko 15.400 rezultata (0,31 sek)



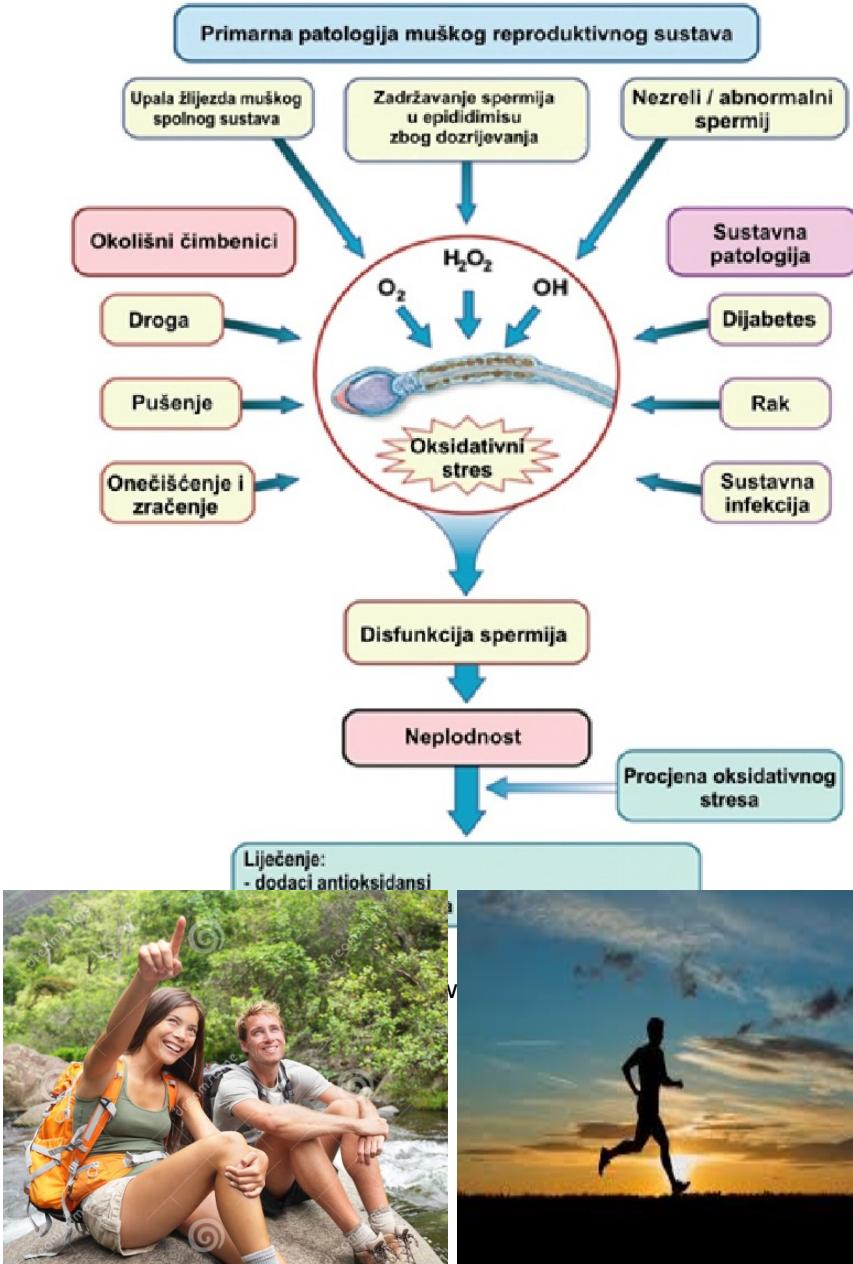
is there anything my husband can do to increase his sperm count



14.4.2016.

1.970.000





## Liječenje:

- izbjegavanje čimbenika koji potiču oksidativni stres
  - poticanje zdravog načina života
    - zdrava prehrana
    - optimalan BMI
    - tjelesna aktivnost
  - unos antioksidansa





Article types

Clinical Trial

Review

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### Search results

Items: 1 to 20 of 598

- clinical evidences for :
  - effectiveness
  - safety
- easy-to-use
- available
- low cost (relatively)

Antioxidants for male subfertility (Review)

Hannaford PA, Mukundan Prasad A, Boulton S, Tindall A, Niedzwiadek M, Hargreave RJ



Live birth: antioxidants may have increased live birth rates (OR 4.21, 95% CI 2.08 to 8.51, P< 0.0001, 4 RCTs, 277 men, I<sup>2</sup>=0%, low quality evidence).

This suggests that if the chance of a live birth following placebo or no treatment is assumed to be 5%, the chance following the use of antioxidants is estimated to be between 10% and 31%. However, this result was based on only 44 live births from a total of 277 couples in four small studies.

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Contents lists available at ScienceDirect

Journal homepage: <http://www.elsevier.com/locate/ejmebs>

Original article

Improvement of sperm quality after micronutrient supplementation

Martin Imhof<sup>a,b,\*</sup>, Jakob Lackner<sup>a</sup>, Markus Lipovac<sup>a</sup>, Peter Chedraui<sup>c</sup>, Claus Riedl<sup>a</sup>

J Assist Reprod Genet (2012) 30:593–599

DOI 10.1007/s10815-012-0994-9

GONADAL PHYSIOLOGY AND DISEASE

Effects of supplement therapy on sperm protamine content and acrosomal integrity of varicocelectomized subjects

Gholamabbas Aziziabadi<sup>1</sup>, Saeid Aziziabadi<sup>1</sup>, Homayoun Babaei<sup>1</sup>, Article

Mohammadal Kianinejad<sup>2</sup>, Mohammad Reza Baechi<sup>2</sup>,

Seyed Nematollahi-mashani<sup>1</sup>

*Mar. Drugs* 2013, 11, 1909–1919; doi:10.3390/med11061909

Effect of Astaxanthin on Human Sperm Capacitation

Gabriella Donà<sup>1</sup>, Ivana Kožub<sup>1</sup>, Anna Maria Brunati<sup>1</sup>, Alessandra Andrisani<sup>1</sup>, Guido Ambrosini<sup>1</sup>, Guglielmo Bonanni<sup>2</sup>, Eugenio Ragazzi<sup>1</sup>, Decio Armanini<sup>1</sup>, Giulio Clari<sup>1</sup> and Luciana Bordin<sup>1,\*</sup>

European Journal of Endocrinology (2012) 166:765–776

ISSN 0804-6443

REVIEW

MECHANISMS IN ENDOCRINOLOGY

Human Reproduction, Vol.26, No.7 pp. 1622–1640, 2011

Advanced Access publication on May 3, 2011 doi:10.1093/humrep/der32

REVIEW Andrology

human reproduction

REVIEW Andrology

The role of sperm oxidative stress in male infertility and the significance of oral antioxidant therapy

Parviz Gharagozloo<sup>1,\*</sup> and R. John Aitken<sup>2</sup>

CellDome LLC, 14 Blue Spruce Drive, Pennington, NJ 08511, USA; Thivary Research Center in Reproductive Sciences, Discipline of Biological Sciences, University of Pennsylvania, Philadelphia, PA 19104, USA

OPEN ACCESS

Marine Drugs

ISSN 1660-3997

www.mdpi.com/journal/marinedrugs

oter<sup>2,3</sup>, G.Block<sup>1</sup> and A.J.Wyrobek<sup>2</sup>



## Original article

## Improvement of sperm quality after micronutrient supplementation

Martin Imhof<sup>a,b,\*</sup>, Jakob Lackner<sup>a,c</sup>, Markus Lipovac<sup>a,b</sup>, Peter Chedraui<sup>d</sup>, Claus Riedl<sup>e</sup>

Each capsule of the active compound (PROfertil®) contained:

- L-carnitine (440 mg),
- L-arginine (250 mg),
- zinc (40 mg),
- vitamin E (120 mg),
- glutathione (80 mg),
- selenium (60 mg),
- coenzyme Q10(15 mg),
- folic acid (800 mg)

participation, leaving 132 subjects who completed 3 months of treatment and provided data for full analysis. The control group included 73 sub-fertile men. Mean age of men taking the active compound was 34 years (min/max: 18–43 years) whereas in the control group this was 38 years (min/max: 22–52 years).

**Table 1**

Semen analysis data among studied groups (active treatment group and controls).

	Ejaculatory volume (ml)		Sperm cell density (million/ml)		Progressive motility (%)		Total motility (%)		Normal morphology (%)	
	Treatment	Control <sup>c</sup>	Treatment	Control	Treatment	Control	Treatment	Control	Treatment	Control
WHO lower limits	2		20		25		50		30	
Baseline median [IQR]	2.9 [1.5]	3.0 [1.7]	5.0 [6.5]	4.9 [5.8]	30.5 [25]	31 [38.8]	32.5 [23.8]	40.5 [44.8]	29.0 [15.2]	39.0 [38.5]
At three months median [IQR]	3.5 [2.3]	3.2 [1.8]	18.5 [23]	7.5 [9.0]	49 [32]	44.0 [47.2]	47.0 [26.0]	50.0 [40.1]	40.0 [17.5]	35.5 [42.3]
<i>p</i> value <sup>a</sup>	0.0001	0.46	0.0001	0.01	0.0001	0.06	0.0001	0.06	0.0001	0.95
Median % change from baseline	+33.3%	+3.7% <sup>b</sup>	+215.5%	+46.4% <sup>b</sup>	+83.1%	+44.0% <sup>b</sup>	+36.4%	+33.9% <sup>b</sup>	+23.0%	-2.4% <sup>b</sup>

Note: Lower limit values for each semen parameter are provided in accordance to the WHO.<sup>16</sup><sup>a</sup> *p* values when comparing 3 months with baseline using Wilcoxon rank test; IQR: interquartile range.<sup>b</sup> *p* < 0.05 when treatments are compared using Mann Whitney test.<sup>c</sup> Controls were sub-fertile men (*n* = 73) who did not receive active compound.

## Vlastita iskustva

PROfertil®

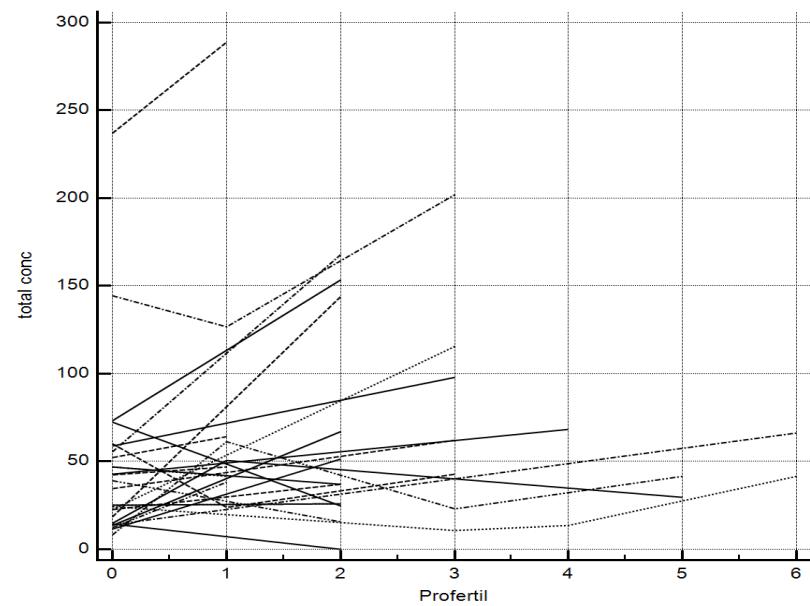
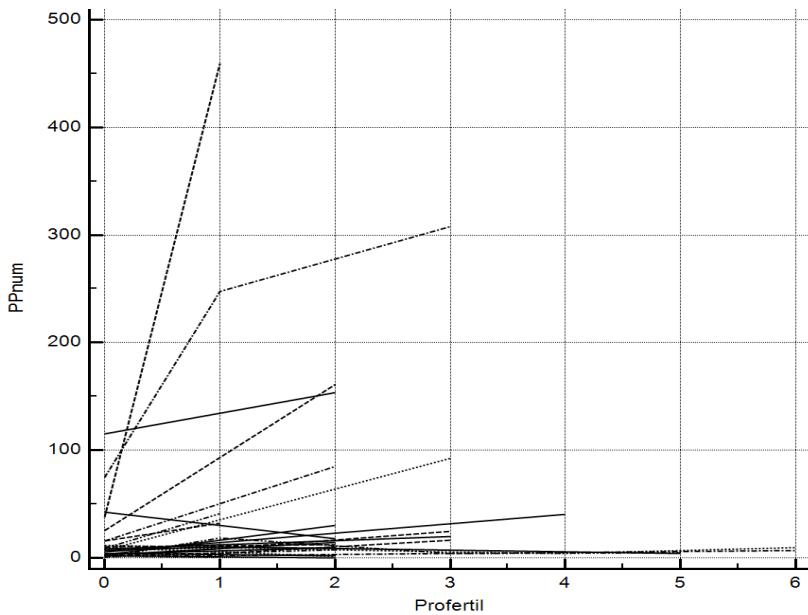
Peroralni kombinirani suplement antioksidansa:

- L-karnitin - pozitivno korelira sa brojem i pokretljivošću spermija
  - L-arginin - povezan je s pokretljivošću spermija
  - cink - povezan sa duljinom životnog vijeka ejakuliranih spermija
  - vitamin E - sudjeluje u očuvanju funkcionalnih značajki spermija
  - glutation - ključna uloga sintezi DNA i bjelančevina spermija
  - selen - esencijalna komponenta glutation-peroksidaze
  - koenzim Q10 - uključen u održavanje energetske ravnoteže
  - folna kiselina
- ishodi
    - koncentracija, broj progresivno pokretnih
  - ispitanici
    - isključeni pacijenti s azoospermijom

Brijuni, 2015

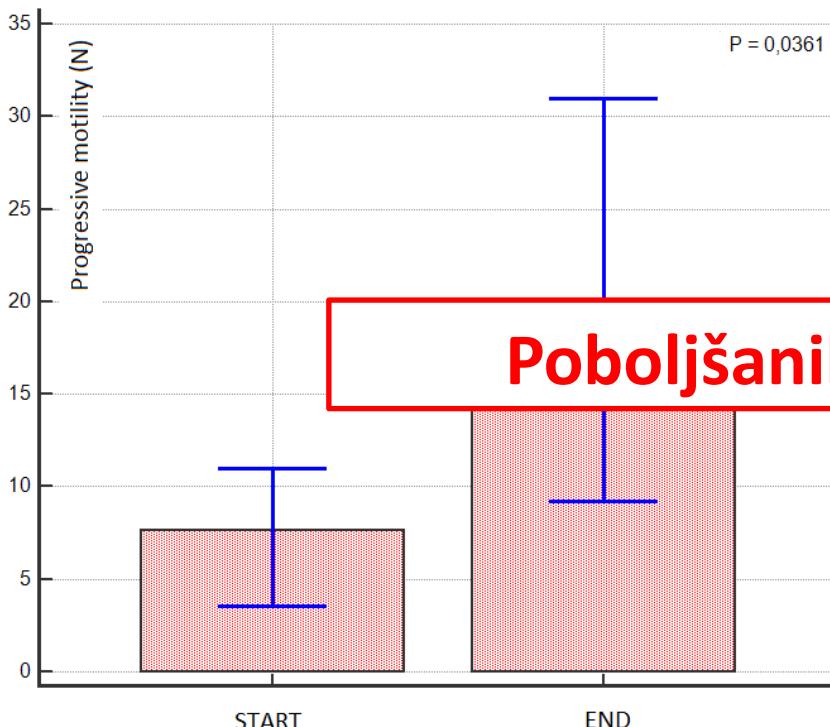
2013-2014; N=27 1.8 caps/dne 2.7 mjeseci	Prije		Poslije		P vrijednost <b>0.051</b>
	Median	IQR	Median	IQR	
Koncentracija (M/ml)	34.5	15.9-57.3	46.8	37.0-68.0	<b>0.049</b>
prog. pokretnih ( $\times 10^6$ )	7.1	2.6-14.7	15.6	6.9-38.4	

## Vlastita iskustva

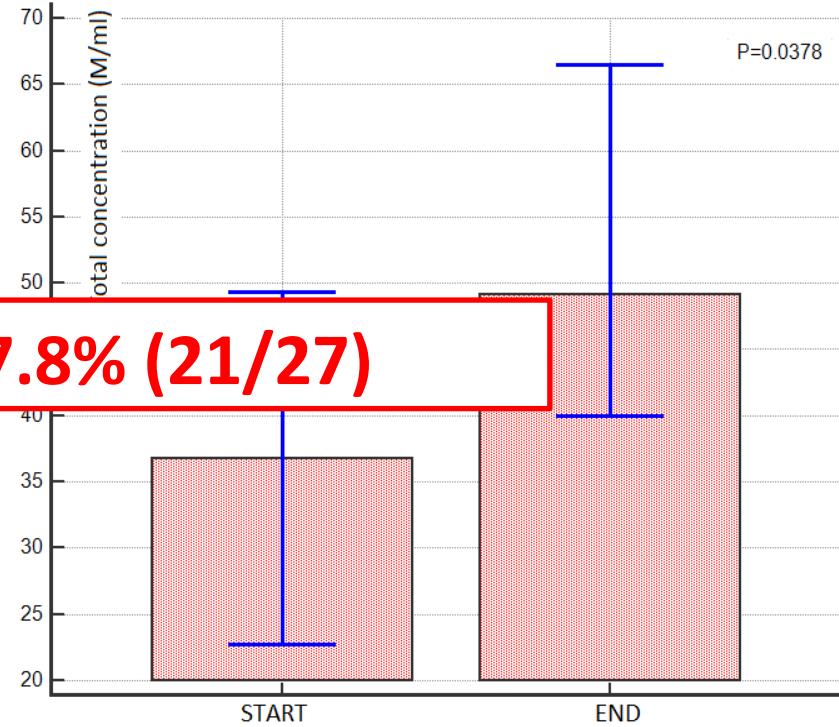


	N	Mean	95% CI	Median	95% CI	10 - 90 P	N	Mean	95% CI	Median	95% CI	10 - 90 P
Time Interval	27	2,593	2,020 to 3,165	2,000	2,000 to 3,000	1,000 to 5,000	27	2,593	2,020 to 3,165	2,000	2,000 to 3,000	1,000 to 5,000
First	27	15,888	5,698 to 26,078	7,082	3,362 to 10,398	1,504 to 41,567	27	45,707	26,803 to 64,611	34,500	22,502 to 47,336	12,540 to 73,080
Last	27	57,931	16,286 to 99,575	16,692	9,034 to 32,453	1,693 to 159,905	27	73,963	47,938 to 99,988	46,800	38,243 to 66,966	24,800 to 164,980
difference	27	42,572	6,161 to 78,983	11,564	3,279 to 27,766	-6,604 to 125,836	27	29,056	12,301 to 45,810	26,000	4,149 to 51,638	-21,620 to 90,500

## Vlastita iskustva



- ishodi
  - koncentracija, broj progresivno pokretnih
- ispitanici
  - uključeni
    - svi koji su počeli uzimati Profertil
    - dva spermograma  $\geq 1$  mjesec odvojena
  - isključeni
    - pacijenti s azoospermijom



2014-2016  
N=27  
1.9 caps/dne  
2.8 mjeseci

