

Independent, randomised, placebo controlled RESEARCH OVERVIEW

about the positive, quantifiable effect of LYL love your life® sunD3 in spray form on the levels of vitamin D3 in the blood

The research was designed by SIA InCell in collaboration with SIA Centrālā laboratorija and SIA NCL following the 05.02.2020 positive opinion from the Scientific Research Ethics Committee of the Institute of Cardiology and Regenerative Medicine of the University of Latvia.

JUSTIFICATION OF THE RESEARCH

Objectives

1. To determine the effectiveness in the body of vitamin D concentrations depending on dosage and length of use. To compare the relative differences in effectiveness of various vitamin D3 products based on their underlying formula.
2. To determine the overall effectiveness of vitamin D concentrations in the body after 30 days of using LYL love your life® sunD3 in LYLmicro™ microemulsion spray form for people with insufficient levels or a moderately severe deficiency of vitamin D (10-29.9 ng/ml), correlating these indicators with dietary habits, overall health and lifestyle.

Hypothesis

LYL love your life® sunD3 LYLmicro™ in spray form provides highly absorbable vitamin D, which promotes adequate levels of vitamin D in the blood thus supporting autoimmune disease prevention^{[1][2][3][4]}, improving psycho-emotional health^{[5][6]}, reducing risk of oncological disease^[7], promoting strong bones and calcium absorption.

RESEARCH MATERIALS AND METHODS

Randomised, placebo controlled, independent clinical research

Duration: 30 days, 10.02.2020–14.03.2020

Research subjects: 171 participants – males and females, aged 18 to 60, individuals with insufficient levels or a moderately severe deficiency of vitamin D (10-29.9 ng/ml).

Dosage and usage:

- 1 Group 1 took a therapeutic daily dose of 8000 IU* of LYLsunD3 LYLmicro™ for 30 days.
- 2 Group 2 took a therapeutic daily dose of 8000 IU* of LYLsunD3 LYL EFFUSIO™ for 30 days.
- 3 Group 3 took a placebo for 30 days.

* Dosage was selected based on recommendations of EU physicians, as well as summaries and overviews of studies published in scientific publications^{[5][8]}.

[1] Twig G, Shina A, Amital H, Shoenfeld Y. Pathogenesis of infertility and recurrent pregnancy loss in thyroid autoimmunity. J Autoimmun. 2012;38:J275-J281 <https://www.ncbi.nlm.nih.gov/pubmed/22218218>; [2] Cantorna MT, Mahon BD. D-hormone and the immune system. J Rheumatol Suppl. 2005;76:11-20. <http://www.jrheum.org/content/76/11/abstract>; [3] Deluca HF, Cantorna MT. Vitamin D: its role and uses in immunology. FASEB J. 2001;15:2579-2585 <https://www.ncbi.nlm.nih.gov/pubmed/11726533>; [4] Chen-Yen Yang, Patrick S. C. Leung, Iannis E. Adamopoulos, and M. Eric Gershwin. The Implication of Vitamin D and Autoimmunity: a Comprehensive Review. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6047889/#R49>; [5] Reinhold Vieth, Samantha Kimball, Amanda Hu, and Paul G. Walfish Randomized comparison of the effects of the vitamin D3 adequate intake versus 100 mcg (4000 IU) per day on biochemical responses and the wellbeing of patients <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC506781/>; [6] Witte J. G. Hoogendijk, MD, PhD; Paul Lips, MD, PhD; Miranda G. Dik, PhD Depression Is Associated With Decreased 25-Hydroxyvitamin D and Increased Parathyroid Hormone Levels in Older Adults <https://jamanetwork.com/journals/jamapsychiatry/fullarticle/482702>; [7] Giovannucci E, Liu Y, Rimm EB, et al. Prospective study of predictors of vitamin D status and cancer incidence and mortality in men. J Natl Cancer Inst. 2006;98:451-459; [8] Pilz S, Zittermann A, Trummer C, et al. Vitamin D testing and treatment: a narrative review of current evidence. Endocr Connect. 2019;8(2):R27-R43. doi:10.1530/EC-18-0432. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6365669/>.

RESULTS AND CONCLUSIONS OF THE RESEARCH

The results of the research clearly demonstrated the efficiency of LYLsunD3 products – with a daily dose of 8000 IU, overall vitamin D levels in the blood serum increase in just one month (30 days) of usage.

92%

of the participants of the research demonstrated an overall improvement in vitamin D levels after 30 days of using LYLsunD3

132%

average improvement of overall vitamin D levels after 30 days of using LYLsunD3 LYLmicro™ in spray form

-15%

average decrease of vitamin D levels over 30 days in participants not taking vitamin D

LYLsunD3 LYLmicro™ group
average concentration of vitamin D in the serum 21.76 ng/ml at start of research

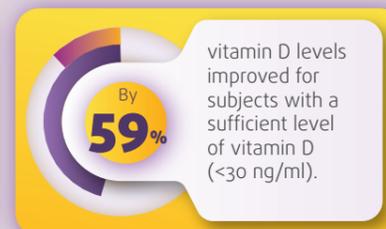


placebo group
average concentration of vitamin D in the serum 24.71 ng/ml at start of research

CONCLUSIONS

Subjects with the lowest initial levels displayed the steepest increase of overall vitamin D concentrations over the course of using LYLsunD3. This indicates the product's ability to effectively increase vitamin D levels in people with an insufficient level or deficiency of vitamin D over a short period of use (30 days).

CONCLUSIONS



The research did not identify a statistically relevant impact of diet, health or demographic indicators in the changes of vitamin D levels. Subjects with a higher body mass index and older subjects displayed a lower increase of vitamin D levels as compared to their respective subject group. This indicates that overweight or older individuals require a higher therapeutic dose of vitamin D.

AT THE END OF THE RESEARCH, THE PARTICIPANTS HIGHLIGHTED THE FOLLOWING BENEFITS OF LYLsUND3:



42%

of subjects said that after 30 days of using LYLsunD3 LYLmicro™ they observed better overall health, higher resistance to stress, more energy, better mood, better facial skin condition and better sleep quality

86%

acknowledged that LYLsunD3 LYLmicro™ is more convenient to use than other vitamin D supplements

100%

confirmed that after seeing the results, they will continue to use LYLsunD3 LYLmicro™ in future and recommend it to friends

RESULTS OF PARTICIPANT SURVEY

96%

acknowledge that vitamin D plays a vital role in overall health

97%

acknowledge that optimal levels of vitamin D guarantee a strong immune system

85%

confirm that they do not include vitamin D rich products in their diet

79%

know that vitamin D can be taken as a supplement

71%

admit that they do not take vitamin D regularly

96%

acknowledge that vitamin D needs to be supplemented daily

95%

confirm that vitamin D should be used throughout the year



good taste



works bypassing the gastrointestinal tract



highly concentrated



children like the taste



long-lasting



easy to use

PROVEN EFFECTIVENESS OF THE VITAMIN IN SPRAY FORM

CONCLUSIONS

The research confirmed the effectiveness of the LYLsunD₃ LYLmicro™ spray as compared to other vitamin D₃ products (based on oil or water) in spray form available on the Latvian market. The table illustrates the absorption rate 30 minutes after use.

LYLmicro™

100%

water-based

oil-based

LYL love your life® **sunD₃**
2000 SV
4000 SV PROFESSIONAL
600 SV KID



Natural, high efficiency, concentrated vitamin D₃ in LYLmicro™ microemulsion spray form. With a natural orange flavor and tooth-friendly xylitol.

INGREDIENTS: Naturally sourced vitamin D₃ (cholecalciferol sourced from lanolin), purified water, xylitol (natural sweetener), natural orange flavoring, citric acid (acidity regulator), xanthan gum (thickener), potassium sorbate (preservative). Does not contain artificial colorants, gluten or GMOs.

LYLSUND3 2000 IU – for maintaining optimal levels of vitamin D₃. Instructions for use: One spray per day after a meal under the tongue or on the inside of the cheek.*

LYLSUND3 4000 IU PROFESSIONAL – for treating insufficiency or deficiency of vitamin D₃. Instructions for use: Two sprays per day after a meal under the tongue or on the inside of the cheek.*

LYLSUND3 600 IU KID – for maintaining optimal levels of vitamin D₃ for children aged 1 to 7. Instructions for use: One spray per day after a meal under the tongue or on the inside of the cheek.*

*The exact dose is determined by your doctor

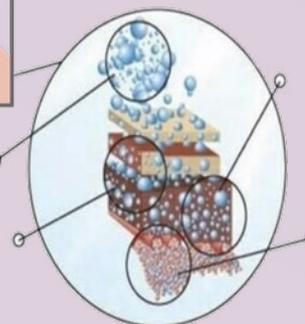
Absorption capacity for various forms of vitamin D₃



Action mechanism of vitamin D₃ in spray form



1. Spray is applied under the tongue or on the inside of the cheek
2. Microdrops of the vitamin enter capillaries and blood vessels in the mucus membranes of the mouth



3. The blood delivers the active substance throughout the body

4. The gastrointestinal tract is bypassed, where proper absorption of vitamin D₃ can often be hindered