

# ABSTRACTS

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## ABSTRACT BOOK

International Congress of Dietetics  
1–3 September 2021

**PART 1: Oral Presentations**

**PART 2: Research Posters**

**SAJCN**  
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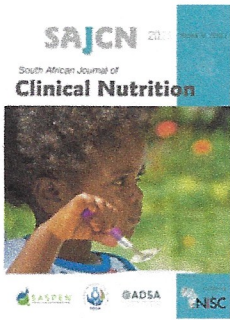


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## 356 Effects of vitamin D3 3000 iu oral spray supplementation and SNPs on obesity markers in overweight and obese, vitamin D deficient, Caucasians during weight loss: a randomized placebo-controlled trial

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**Biography:** Konstantinos Xenos is a registered dietitian in Greece and possesses a Master of Science in Nutritional Medicine from the University of Surrey.

He is a Doctor of Philosophy at the Pharmaceutical School of the University of Athens.

He is head of the nutrigenetics department of "Athens Euroclinic Hospital" and also he practises the profession of clinical dietitian and nutritionist, in his personal office.

He is vice president of Hellenic Nutrition Institute.

He has participated as speaker or lecturer in a lot of congresses and international scientific events, while from 1996 until today he has watched all the world congresses on nutrition, clinical dietetics and obesity that have been carried out.

The last decade he has presented many television programmes regarding health and nutrition, while he is editor of many magazines that deal with health, nutrition and diet.

**Introduction:** Vitamin D is a fat soluble vitamin, essential in multiple physiological functions. Studies suggest that vitamin D deficiency is associated with obesity and vice versa, low vitamin D levels might be an independent predictor of obesity. Objectives: To investigate the effect of vitamin D3 3000 IU oral spray supplementation on obesity markers during a personalized weight-loss diet, according to individual's genetic profile.

**Methods:** A randomized, double-blind, placebo-controlled trial was conducted among 125 overweight and obese Caucasian volunteers with vitamin D deficiency or insufficiency. Volunteers were randomly assigned to either oral vitamin D (Dlux 3000) supplement (intervention, n=76) or placebo (control, n=49), on a daily basis for 3 months following a weight loss diet. Fat mass, weight, BMI, RMR and serum 25(OH)D were monitored on baseline and each month. DNA samples were extracted from buccal swabs and genotyped for the rs2228570 (VDR), rs1544410 (VDR), rs731236 (VDR), rs1800544 (ADRA2A), rs1801252 (ADRB1), rs1042713 (ADRB2) and rs4994 (ADRB3) polymorphisms. Statistical analysis was performed using SPSS package (v.25).

**Results:** Significant improvement in vitamin D status and reduction in weight, BMI and fat percentage were observed in the intervention group (p<0.05). In the intervention group, carriers of the rs2228570 T allele showed greater vitamin D level improvement compared with the homozygous C allele (p=0.067). Furthermore, heterozygous (CT) for the rs731236 showed lesser weight loss (p=0.068) and for the rs1042713, a significant lower decline in fat percentage was observed for homozygous AA carriers compared with the heterozygous (p=0.051). In the control group, differences in weight loss (p=0.055) and BMI (p=0.045) were observed between rs1544410 AA and GG homozygous.

**Conclusion:** Vitamin D oral spray supplementation improved 25(OH)D levels and obesity markers in overweight and obese volunteers with vitamin D deficiency or insufficiency. Genetic polymorphisms seem to influence vitamin D supplementation response and obesity markers.

**Conflict of interest:** Konstantinos Xenos is the Scientific Manager of the X4NUTRITION the exclusive distributor of Dlux3000 in Greece

**Keywords:** Vitamin D obesity VDR ADR

## 63 Evaluation of the supplementary feeding programme targeted at moderately malnourished children aged 6 to 59 months in Baringo County, Kenya

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**Biography:** Ronel Beukes is a Registered Dietitian at Stellenbosch University and works within the field of Community Nutrition. She lectures to undergraduate Dietetic students, does undergraduate academic supervision and post-graduate study supervision.

**Introduction:** The supplementary feeding programme (SFP) was implemented in Baringo (Kenya) in 2009 to alleviate malnutrition. Despite the SFP, Global acute malnutrition (GAM) rates deteriorated. This study evaluated the SFP implementation targeted at malnourished children.

**Methods:** A descriptive cross-sectional study design with random sampling of SFP-beneficiaries at health facilities aged 6 to 59 months was followed. Anthropometric measurements were done on participants and caregivers were interviewed on the day of data collection. Secondary data from health facility records was used to determine previous weight, Mid upper arm circumference (MUAC) and the implementation of the SFP at facility level.

**Results:** A total of 407 beneficiary-caregiver pairs were included. Most of the participants (63%; n=255) received ready-to-use supplementary feeds (RUSF), of which 92%(n=236) received the rightful fortnight ration (14X92g RUSF sachets) during the distribution preceding the study. GAM rates decreased from 82%(n=333) to 66%(n=270) within two weeks after admission. Rations ran out within five to nine days for 33%(n=135) of the participants, mainly because of sharing with non-SFP-registered household members 66%(n=88). Nutritional counselling was previously given to 82%(n=333) of caregivers. Inadequate food access (24%;n=80), poor access to health care services (18%;n=61) and cultural factors (12%;n=41) limited the implementation of the counselling. More than half of excusers (57%;n=98) at one month before data collection exceeded the recommended maximum length of stay in the programme(84 days). Frequent stock-outs of SFP commodities at health facilities, were documented.

**Conclusion:** The programme stakeholders should address the basic causes of malnutrition (short stock and correct implementation of the policy) at facility level. To address the underlying causes (household food insecurity, sharing of RUSF, poor access to health care services and cultural factors) limiting the success of the programme at household level, SFP beneficiaries-households should be linked to food-assistance programmes.

**Conflict of interest:** None

**Keywords:** Supplementary feeding programme; malnutrition; food insecurity; anthropometry; children