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**EXPOSURE VS. SENSORY EDUCATION: THEIR EFFECTIVENESS IN INTRODUCING  
NOVEL VEGETABLES TO PRESCHOOL CHILDREN'S DIETS?**

*PRELIMINARY RESULTS OF A DANISH INTERVENTION*

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*Published in:*  
Annals of Nutrition and Metabolism

*Publication date:*  
2013

*Document Version*  
Early version, also known as pre-print

[Link to publication from Aalborg University](#)

*Citation for published version (APA):*  
Mikkelsen, M. V., Perez-Cueto, A., & Mikkelsen, B. E. (2013). EXPOSURE VS. SENSORY EDUCATION: THEIR EFFECTIVENESS IN INTRODUCING NOVEL VEGETABLES TO PRESCHOOL CHILDREN'S DIETS? PRELIMINARY RESULTS OF A DANISH INTERVENTION. *Annals of Nutrition and Metabolism*, 63(Suppl1), 353. [P0202]. <http://www.karger.com/Article/Pdf/354245>

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**PO202****EXPOSURE VS. SENSORY EDUCATION: THEIR EFFECTIVENESS IN INTRODUCING NOVEL VEGETABLES TO PRESCHOOL CHILDREN'S DIETS? PRELIMINARY RESULTS OF A DANISH INTERVENTION**

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**Background and objectives:** Developing positive eating habits begins in childhood and involves establishing good food practice. Generally, vegetables are difficult to introduce into a diet, although they are specifically addressed by all recommendations. Ways to achieve healthy eating goals include developing food experiences, conducting to accept different tastes and textures. Healthy eating interventions in kindergartens have shown promising results using different strategies including exposure to novel vegetables and sensory education. Aim The LOL (Learning over Lunch) project investigates whether preschool children's vegetable preferences are improved by sustained exposure to novel vegetables alone or by combining sensory education with exposure to novel vegetables.

**Methods:** A controlled intervention study was carried out in 4 Danish kindergartens, covering in total 246 children (mean age: 4,4 years; boys: 57%; girls: 43%). Three preschools received three novel vegetables that were included in the lunch service for a period of 20 weeks. One of the kindergartens received sensory education and other food-related activities during the intervention. Data on prior exposure of vegetables, knowledge, liking and willingness to try was collected using a picture-based questionnaire for children, questionnaire data from parents and food service personnel. Numeric data were analysed with SPSS v.20, visual data were analysed using Face-reader<sup>®</sup> and Observer XT<sup>®</sup>.

**Results:** Preliminary follow-up results show that the largest effect on children liking and eating novel vegetables is achieved by a systematic and sustained exposure through provided meals, and addition of sensory education and food-related activities seem not to affect this outcome.

**Conclusions:** The project suggests that preschool food service is a key player in influencing children preferences for unfamiliar vegetables and in implementing strategies to improve children's eating habits. Sustained exposure to vegetables appears to be an important tool to achieve consumption and liking of vegetables.

**Key words:** Vegetables, preschool children, food service in preschools

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**PO203****PLASMA LEVELS OF CLA ISOMERS AFTER SINGLE ORAL ADMINISTRATION OF TONALIN OIL TO RATS**

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**Background and objectives:** The two principal CLA isomers: Rumenic acid (RA; C18:2 cis9, trans11), associated to anticarcinogenic, antiatherogenic, antioxidative and immune system stimulation, and the C18:2 trans10, cis12 isomer related with reduction of body fat activities, are present within a concentration of 80g/100g oil and a 1:1 ratio in the synthetic commercially available Tonalin TG 80 oil. Previous data from animal experimentations stated that the effective dose in humans to obtain healthy biological effects could be between 3-6 g CLA/day. However, of the Tonalin oil no data are available on their absorption, distribution and elimination characteristics. The aim of this study was to characterize the absorption grade of Tonalin administered intragastrically as a single dose in rats.

**Methods:** Tonalin oil was administered orally by gavage (3000 mg/kg bw. corresponding to 1200 mg C18:2 cis9, trans11/kg bw and 1200 mg C18:2 trans10, cis12/kg bw.) to male Wistar rats. Serial blood samples were collected after oral administration. Plasma concentrations of the two active conjugated linoleic acid isomers were determined by GC/MS.

**Results:** The active conjugated linoleic acid isomers were rapidly and partially absorbed. Maximum plasma concentration was about 7 µg/mL for each of the two isomers after 2h of oral administration. Isomer concentrations in plasma after 1 h were about 2 µg/mL, and exceeded 1 µg/mL after 12 and 24 hours respectively.

**Conclusions:** The present study showed that after oral administration of Tonalin oil, low concentrations of the active conjugated linoleic acid isomers (C18:2 cis9, trans11 and C18:2 trans10, cis12) reached the blood circulation intact. Tonalin plasma disposition characteristics should be considered in choosing dosage regimens that maximize efficacy of Tonalin for use in functional food and dietary supplements.

**Key words:** CLA isomers, Oral absorption, Plasma concentrations.

**Acknowledgements:** This work has been supported by CONSOLIDER FUN-C-FOOD Project.