THE EFFECT OF A RESTRICTED DIET AS A RESULT OF FOOD ALLERGIES ON NUTRITIONAL ADEQUACY IN PAEDIATRIC POPULATIONS

Annalise Farah

Supervisors:

Wendy Stuart-Smith, BSc DipEd MND, APD
Dr Robert Loblay, MBBS, FRACP, PhD
Anne Swain, Dip Nutr Diet, PhD, APD
Carling Chan, BSc (Hons) MND, APD

University of Sydney, Royal Prince Alfred Hospital Allergy Unit, Australia.

2\textsuperscript{nd} December 2018
ABSTRACT
Cow’s milk protein allergy (CMPA) is one of the most common food allergies amongst paediatric populations, affecting one in fifty Australian infants. Strict dietary avoidance of milk and dairy products remains the current therapy for those affected by CMPA, however such restrictions may potentially result in nutritional deficiencies and impaired growth. The purpose of this study was to conduct a systematic literature review to investigate the nutritional status of paediatric populations on restricted diets as a result of CMPA. Five key databases were incorporated in the literature search conducted between 13th–19th August 2018. Eight studies were critically analyzed between 1992-2017, involving a total of 429 subjects and 183 controls. The majority of food allergy participants were within healthy percentile ranges for weight-for-age, length-for-age and BMI-for-age values. Three of six studies reported suboptimal weight-for-age and length-for-age values amongst a small percentage of food allergy participants, however across all these studies the absence of dietary management, vitamin supplementation and poor formula usage were reported. The possibility of underlying cow’s milk protein enteropathies were also not accounted for. Dietary intakes of calcium were below recommendations amongst both food allergy participants and controls, with food allergy participants meeting 62% of recommendations on average. Biochemical serum concentrations of vitamins and minerals were within recommended reference ranges, with no statistical significant values observed. Two studies measured Bone Mineral Density and reported reduced levels amongst food allergic populations (p <0.03), however no dietary intake data was reported across these studies to associate these findings with dietary adequacy. In conclusion, children with CMPA are at a low risk of developing nutritional deficiencies and impaired growth outcomes as a result of dietary restrictions when receiving adequate dietary management.

Keywords
Paediatrics; food allergy; hypersensitivity; nutritional status; biochemistry; growth