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Unpublished: 04/09/2018

Document Version:
Peer reviewed version

[Link to publication in Bond University research repository.](#)

Recommended citation(APA):

Kreis, C., Beardwood, G., Van der Meij, B. S., Nisbet, J., & McGill, J. (2018). *Essential Fatty Acid Deficiencies in Adult PKU patients on low protein diets*. Abstract from Building Bridges: 42nd Human Genetics Society of Australasia Special Interest Group Meetings, Sydney, Australia.

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ASIEM 2018 Abstract

Title: Essential Fatty Acid Deficiencies in Adult PKU patients on low protein diets

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People with PKU are at risk of essential fatty acid deficiency (EFAD) due to restriction of naturally occurring EFA sources in the treatment diet and lack of EFA supplementation in some prescribed PKU formulas. Barriers such as poor formula compliance, and periods of rapid growth during pregnancy can heighten the EFAD risk. This investigation aims to identify the proportion of adults with PKU who have EFAD or are at risk of EFAD, and to detect variables that are associated with EFAD.

Retrospective pathology data was collected from 2011-2017 for adults with PKU. Results retrieved included EFA profiles and mean phenylalanine levels for 6- and 12- months prior to EFA collection to assess compliance to the PKU treatment diet and formula. Data on age, gender, pregnancy status, anthropometry and formula type and dose were also obtained. The data was collated and analysed using Chi-square tests to identify if differences in EFAD exist across variables.

Full data sets were collected for 124 EFA samples from 51 adults with PKU. Of these XX showed at least one EFAD, and XX showed EFAD risk. Data analysis revealed that XX of the EFAD and XX at risk of EFAD were pregnant women. Of these XX% were compliant with prescribed dose of PKU formula and protein restricted diet.

Despite pregnant women with PKU maintaining good compliance with low protein diet and formula, EFAD do exist during this rapid growth phase. This investigation stimulates identification and improved dietary management of EFAD in adults with PKU and encourages further research in this area.