



## Role of a high fat diet with/without exercise on blood lipids in patients with type 2 diabetes

**Dr Gerrit Breukelman**

*University of Zululand; Lecturer in Human Movement Science*

### Abstract:

Background: Epidemiology studies on diets and their role in cardiovascular disease (CVD) have noted that atherosclerosis is foremost in the development of CVD. Diet has demonstrated to have a direct association with CVD and other risk factors, such as dyslipidemia. While diet fads come and go, the low carbohydrate, high fat diet (LCHF) continues to be an ongoing topic in health promotion with its health-promoting benefits continuously being questioned. This is in particular the case in the development and management of dyslipidemia since a high-fat diet is proposed as actually promoting the development of dyslipidemia.

Objectives: This study aimed to determine if a LCHF diet either alone or in combination with exercise would have any lipoprotein-lipid lowering properties in patients with diabetes mellitus.

Methods: Thirty-nine (39) patients with diabetes mellitus were assigned into either a non-exercising, non-dieting group (CG), diet-only group (DIG) or a concurrent exercise and LCHF group (DIEXG) for 16 weeks. While the CG continued with their normal diet and daily activities, patients in the DIG followed a LCHF consisting of a high fat diet and no more than 50 g of carbohydrates per day. In turn, patients in the concurrent group (i.e. DIEXG) were required to follow the LCHF and an additional exercise regime. Data analysis consisted of a paired sample *t*-test and repeated-measures ANOVA using the SPSS-25 software. A confidence level of 95% was considered significant.

Results: There were no significant ( $P > 0.05$ ) changes observed in any of the variables measured, including total cholesterol (TC), triglycerides (TG), low-density lipoprotein cholesterol (LDL-C) and high-density lipoprotein



cholesterol (HDL-C) in either the DIEXG (TC:  $P = 0.791$ ; 2.0% increase, TG:  $P = 0.477$ ; 9.5% decrease, LDL-C:  $P = 0.704$ ; 7.4% increase and HDL-C:  $P = 0.989$ ; 0% change) or DIG (TC:  $P = 0.881$ ; 0% change, TG:  $P = 0.677$ ; 17.9% increase, LDL-C:  $P = 0.744$ ; 13.8% decrease and HDL-C:  $P = 0.844$ ; 0% change).

Conclusions: A LCHF has no effect on lipoprotein-lipids in type 2 diabetics and may even counterpoise the already proven effects of exercise when used as concurrent therapy.

### Biography

Mr Gerrit Breukelman is an enthusiastic, friendly and hardworking person with a passion for people, sport and health, who believe in himself. He positive and strive to reach goals that he set out for himself. He is loyal and self-confident. He like planning ahead, but can think on his feet. He work well in a team and enjoy taking initiative to lead a project if need be.

He enjoy teaching in the field of Biokinetics and Sport Science and strive to deliver a high quality of work. His aim is to grow his own knowledge as new research is constantly conducted. He enjoy research and supervising student research projects. He objective is to increase his research outputs. He is currently conducting his PhD.

2<sup>nd</sup> Euro Sports Medicine-Fitness and Physiotherapy, July 20-21,2020,London,Uk

**Citation:** AGerrit Breukelman, Role of a high fat diet with/without exercise on blood lipids in patients with type 2 diabetes, Euro sports medicine 2020, July 20-21,2020, London,Uk