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FaCTs-diet a reduction diet for long-term weight management

Abstract

We have designed a weight loss diet that meets the requirements of the nutritional societies, offers the proven success of the low fat and low-carb diet for weight loss and avoids their disadvantages. Both the low-fat and the low-carb diet are unhealthy in the long run, since either carbohydrates or fat are consumed in excess. The FaCTs-Diet (FA,Fat; C, Carbs; Ts, timed; snacks is known in Germany as the KFZ-diet) compensates for the imbalances through the combination of these established forms of reduction diet. FaCTs-Diet is convincing for the participants through the mediated knowledge of the consequences of the simultaneous consumption of fat and carbohydrates, as it is the case with any dish of Western Diet type. The FaCTs-diet has proven itself a complete everyday diet with better participant compliance. This can be attributed to more food choices, more flexible

Keywords: slimming diet, morbid obesity, facts-diet, KFZ-diät

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Introduction

Recent studies show that although overweight in men and women in the population is not increasing in most western countries, the number of morbidly obese people with a BMI >35 kg/m2 or a BMI >30 kg/m2 and an existing secondary disease is still increasing. While overweight has little relevance to public health, the consequences of obesity are worrying. Insulin resistance, type 2 diabetes mellitus, lipid metabolism disorders, high blood pressure, metabolic syndrome, gallstones, certain types of cancer, reflux disease (GERD), fatty liver disease, degenerative joint diseases, obstructive sleep apnea syndrome and hypoventilation syndrome are increasing and causing immense costs in the social system. Details on the epidemiology, etiology, definition, morbidity, mortality, prevention and conservative therapy of obesity are presented in the current national and international guidelines on obesity. Crash-diets and short-term dietary interventions are not effective for the chronic disease obesity. We have designed a diet that meets the requirements of long-term nutritional therapy for obese people: wholesome, varied, suitable for everyday use and enjoyable.[1–3] The low-fat and the low-carb diets are scientifically proven effective. Both achieve impressive short-term weight loss success Shai, Loveman, Mozzuafarian, Hu, Naude et al.[4,5] but there are very few studies with follow-up longer than 2 years. Despite a great medical and public effort, conservative measures are only attested to have a low efficiency of less than 10% over three years.[6]

The principle of facts-diet

FaCTs-Diet (Fa = fat, C = Carbohydrates, Ts = Timed snacks) is designed according to the principle of the KFZ-Diet, which is in use in Germany since 1995.[1,7] In order to minimize fat storage, which is the scientific basis of both the low fat and the low-carb diet, we have combined both reduction diets and thus avoided their disadvantages. However, the combination required that carbohydrates be fully digested before the participant switched to the low-carb diet, and also fat digestion is finished before switching to the low-fat diet. Our research has shown that 4 hours after an average carbohydrate meal, insulin levels have plummeted and fat can no longer be stored. Fat digestion is complete after 6 hours and the subsequent carbohydrate meal provides hardly any fat. Therefore, the participants were advised to keep appropriate intervals between the low-fat and low-carb diet, in which only calorie-free snacks such as vegetables, drinks or dairy products should be eaten (Figure 1).

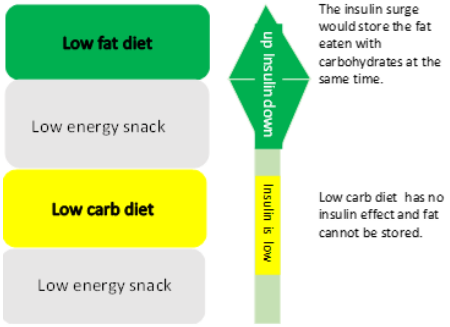

Figure 1 FaCTs-diet is designed according to the principle of the KFZ-diet.

Description of the studies

From 2000 to 2018 a total of 619 people took part in the course Facts-Diet, of which 598 attended all 10 course units of 90 minutes/week. The nutritional information for the FaCTs-diet was limited to knowledge of fats and carbohydrates; the recommendations of the low-fat and low-carb diet were followed with regard to the amount consumed, i.e. liberal in carbohydrates in the low-fat phase and liberal in fat in the low-carb phase with the course content was conveyed in lectures, interactive communication and included information on nutritional behavior, hunger and satiety, autopoiesis, stress and stress management as well as sport and exercise. Monthly follow-up care for 6 months was possible, thereafter. In 2019 we performed a monocentric, longitudinal study whose data were collected prospectively from 2000 to 2018 and analyzed retrospectively. The 619 participants (TN) had obesity II° and III° or I° with a pre-existing sequelae. We did not contact actively the participants after the follow-up care was completed. In 2019, the participants were surveyed using a standardized questionnaire.

Description of the intervention

Between January 2000 and November 2018, 619 participants who met the inclusion criteria and for whom there were no exclusion criteria (Table 1) took part in the 10-week weight reduction course.

The nutritional therapy is based on a training course for low-fat and low-carb meals, which was supported by appropriate "instead of tables" in the practical implementation. The instead of tables gave the participant suggestions for replacing carbohydrates or fat for low-carb or low-fat products. In this way, a fat intake of <4g/meal with a low-fat meal and a carbohydrate intake of <15g/meal with a low-carb meal was achieved. The participants took a low-fat meal in the morning and a low-carb meal in the evening with the appropriate interval between the low fat and the low-carb meal. If necessary, they took low-calorie snacks at intervals. At the beginning and end of the course, the relevant laboratory parameters and physical parameters were collected (Table 2).

Table 1 Description of the intervention

Inclusion criteria
Obesity Io with secondary diseases or obesity II° and III°
Consent to the course log
Willingness to attend classes regularly
Adequate means of communication
Exclusion criteria
objections of the attending physician
Eating disorders such as Bing eating
undertreated mental illness
labile diabetes mellitus with hypoglycemic episodes
acute gout attack
alcohol or drug abuse
severely limited intellectual / linguistic competence
Termination criteria
Withdrawal of consent to course log

Table 2 Laboratory parameters (mean ± SD) of the participants whose values were above the reference range at the beginning of the course and their changes after 10 weeks of FaCTs-diet

Plasma concentration	week 0	Week 10	%of initial value after 10 weeks
Triglycerides [mg/dl] n = 68	268.5±87.2	201.7±107,1	-66.8 (-24.9%)
Plasma Cholesterol [mg/dl] n = 154	254.9±29.8	210.7±31.3	-44.2 (-17.3%)
Uric acid [mg/dl] n = 68	8,0±0.9	6,8±1.3	-1.2 (-15,0%)
Glucose [mg/dl] n = 133	120,82±4.8	111.9±25.5	-8,9 (-7,4%)

Statistics

All data were continuously entered into the data pool, checked for missing values and analyzed with the statistics program SPSS 24.0. Descriptive statistics such as mean, range, and standard deviation were used to describe the main variables. The t-test was used when evaluating paired samples, Pearson's correlation coefficient was used to assess the correlation between quantitative variables. The test parameters were evaluated exploratively using SPSS, the characteristic values of the distribution were provided by the boxplot representation. All p-values are two-tailed and $p<0.05$ was considered statistically significant.

Results

564 participants (109 m / 455 f) who had completed the course in full were evaluated. 55 participants did not complete all ten course units and were excluded from evaluation. The compliance to FaCTs-Diet turned out superior to low-fat or low-carb diets with a drop-out rate of 7% during the 10-week course. Reason for drop-out were such as moving house or intercurrent illness and not related to the protocol of the study, Low drop-out rate can be attributed to more food choices, more flexible diet choices, and more impressive weight loss over time. We have not received any comments about rejection of the diet, the course content or the proposed procedures. The participants confirmed that the diet was very easy to understand, and due to the flexibility of the diet, it was very suitable for everyday use and integration when eating together. The mean BMI at the beginning of the courses was 34 + 5 kg/m^2 (mean + SD), range 28-58 kg/m^2. The average weight loss over the 10 weeks was 6.6% of initial body weight.

The relevant laboratory results of the 10-weeks course are listed in Table 2. The reductions in body weight, BMI, blood sugar and triglycerides over the 10-week course were statistically significant at the <0.001 level. We found a normalization of plasma triglycerides in 64.7% and of the cholesterol in 64.3% of those affected.

The number of responses of our participants decreases from year to year, and it cannot be ruled out that the successful participants in particular have responded. From our observations it can be concluded, that the effect of our course on weight reduction is effective up to two years and a much longer treatment of the obesity disease is recommendable. However, since our question aimed at the duration of the effect of a weight loss course, we did not pursue this question. However, we can state that even after 18 years, an effect can still be observed. The %EWL reported here is preferred to reporting absolute weight loss because it is based on the person's normal weight and represents the reduction in excess body weight.[8] This parameter was also used in the only study reporting weight progression after gastric banding over 17 years. It comes from a highly specialized Australian working group. Here, too, the results show the considerable drop in feedback, so that the course over 17 years could only be reported to 4 participants.[8] This study also uses the %EWL and Table 3 shows that with our training program one participant achieved the weight loss of a gastric band without having to accept its undesirable effects.

Table 3 Shows that with our training program one participant achieved the weight loss of a gastric band without having to accept its undesirable effects

Observation period	Mean of %EWL*		%EWL max		Number of patients	
	FaCTs	GB	FaCTs	GB	FaCTs	GB
1 year	21	35	41		91	3132
10 years	36	46			50	3017
18 years FaCTs-Diet 17 years GB	29	60	60		8	4

Discussion

There is consensus that obesity requires lifelong therapy.[9–12] However, the requirements for this therapy have so far not been specified.[13] Our long-term study shows that the 10-weeks weight management program with a voluntary aftercare of 6 months is effective for 3 years. However, the treatment of morbid obesity

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includes not only a full, varied and everyday nutritional program but also the other measures described in the guidelines on obesity.[14] To date, there is still little agreement and transparency about the recommended measures to change lifestyle and physical activity. However, this shortcoming should not mislead us into regarding bariatric interventions as the primary and only promising long-term treatment for obesity.[13,15]

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Conflicts of interest

The authors declare no conflicts of interest regarding the research and findings presented.

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