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Description of diet and physical activity intervention in lifestyle consultation

By

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Introduction

In general

Advices given on diet and physical activity followed the recommendations given by the Danish National Board of Health at that time, and were based on up-to-date evidence-based knowledge. The baseline period is the most briefly described part. This is due to three facts: the diet advices should be very general and simple, a new dietician was hired from 1-year follow-up and finally, the evidence regarding physical activity was insufficient. More detailed information about the diet and physical activity intervention can be obtained by contacting Research Centre for Prevention and Health.

The lifestyle counselling in brief

The consultation took 15-45 minutes, depending on the lifestyle of the participant, the results of the health examination and the individual risk of ischemic cardiovascular disease (CVD). Diet was often central in the counselling. At 5-years follow-up, the counselling was performed in a shortened version.

All participants had an individual assessment of their risk of CVD at the age of 60. This assessment was based on the results of the day together with their age, sex and familiar disposition for CVD and previously diagnosed diabetes and/or ischemic heart disease. This was done by a computer-based programme PRECARD[®]. Every participant received a print with the results together with simple general advices on healthy diet, physical activity and non-smoking. Moreover, leaflets with recommendations on smoking, healthy diet habits and/or physical activity were handed out to the participants.

Pedagogics

The applied models were:

Health Belief Model, Social Cognitive Theory, Stages of Change and The Motivational Conversation. At baseline the weight was in particular attached to the Health Belief Model (thorough interpretation of the health examination results and the individual risk of CVD). Diet and physical activity recommendations were sought to fit the extent of motivation of each participant. Later on, more weight was given to motivational counselling. The participants were encouraged to make individual plans for a healthier lifestyle.

Baseline examination: March 1999 – March 2001

Diet recommendations

General strategy: The seven diet advices given by the National Board of Health - the major focus was on fat.

The seven diet advices:

- Eat plenty of bread and grain

- Use only a little butter, margarine and oil
- Eat fruit and many vegetables every day
- Eat potatoes, rice or paste every day
- Eat fish often – change between different fish
- Choose milk products and cheese with low fat
- Choose meat with little fat

In case of increased values (of cholesterol, blood pressure, blood sugar and/or weight) the recommendations concentrated mostly on reducing the content of fat, especially the saturated fat. In addition to that, much focus was given to the contents of cholesterol in the diet. The participants were advised to use oil in stead of butter, and olive oil was first choice.

Recommendations on physical activity

At baseline only little evidence based literature existed on implementation of physical activity in a general population. If the physical activity level of a participant was insufficient, the participant was asked to be active at least four hours a week, but no type of activity or intensity was recommended in preference over others. Generally, not much time was used on physical activity during the lifestyle counselling.

1 year follow-up: March 2000 – March 2002

Diet recommendations

General strategy: All participants were continuously advised to follow the seven national diet advices.

Fat: The most important diet advice to all participants was to limit the fat consumption, in particular saturated fat.

- Reduce the fat consumption to max. 30 % of the energy
- The fat consumption in meat should not exceed 10 gram fat per 100 gram.
- A slight reduction in the consumption of cholesterol-bearing foodstuffs provided that the rest of the diet is low-fat.
- Increase unsaturated fat from vegetables and fish.

Fish: All participants were advised to eat at least 300 gram fish per week.

Fruit and vegetables: All participants were advised to eat 600 gram of fruit and vegetables per day.

- Diabetics were advised to limit the consumption of fruit to max. three pieces per day.

Carbohydrates and fibres: All participants were advised to increase the consumption of complex carbohydrates and dietary fibres and the consumption of fruit and vegetables.

- Diabetics were advised to limit the consumption of fast-convertible carbohydrates as for instance white bread and milk/milk products above ½ litres per day.

Adjustments:

- More weight on increasing the consumption of fish, fruit and vegetables.
- Rather than focusing on single foodstuffs or food substances, diet was looked upon in its entirety.
- A meal pattern with three main meals and two-three between meals per day – for everybody.
- Overweight participants were advised to limit the energy consumption.
- The "plate-model" was recommended (1/3 of the plate contains vegetables, 1/3 of plate contains potatoes, rice, paste or bread and 1/3 contains meat, fish, poultry or egg dish.; if the participant was overweight the proportion was: 1/2 vegetables, 1/4 potatoes/rice/paste and 1/4 meat)
- Participants with increased blood pressure were advised to limit their salt consumption.
- *Alcohol*: All participants were advised to limit their alcohol consumption to max. 14 units for women and 21 for men per week.

Recommendations concerning physical activity

Everybody was advised to be physically active at least half an hour per day, but the recommendation was especially given to overweight participants, diabetics, or participants with IGT and/or increased blood pressure. Physical activity had to be of moderate intensity which means that the participant should be slightly short of breath. No type of physical activity was recommended more than other. The half hour could be divided in several shorter periods, e.g. 3 x 10 minutes per day.

3 year follow-up: March 2002 – March 2004

Diet recommendations

General strategy: All participants were continuously recommended to follow the seven national diet advices.

Adjustments:

- diabetics were advised not to eat dried fruit and to drink fruit juice
- more focus on the type of fat in relation to the quantity consumed as regards fried food
- participants with an unhealthy diet were given diet recommendations, irrespective of increased weight, cholesterol and blood pressure.

Recommendations concerning physical activity

Everybody was advised to be physically active at least half an hour per day, but the recommendation was especially given to overweight participants, diabetics, or participants with IGT and/or increased blood pressure. Physical activity had to be of moderate intensity which means that the participant should be slightly short of breath. No type of physical activity was recommended more than other. The half hour could be divided in several shorter periods, e.g. 3 x 10 minutes per day.

In case of diabetes or IGT it was emphasized that harder/more physical activity in relation to basic level was demanded.

5 year follow-up: March 2004 – April 2006

Diet recommendations

General strategy: All participants were recommended to follow the eight national diet advices.

The eight diet advices:

- Eat fruit and vegetables – six per day
- Eat fish – several times a week
- Eat potatoes, rice, paste and coarse bread – every day
- Cut down sugar – in particular soda water, sweets and cakes
- Eat less fat – in particular from dairy produce and meat
- Eat varied – and maintain the recommended weight
- Drink water
- Be physically active – at least 30 minutes per day

Adjustments:

- Do not consume more than ½ litres of fat-free milk products and 30 g of lean cheese per day - for all participants
- Limit the contents of natural and industrially made transfatty acid.
- A minimum content of fibre in bread recommended
- Consumption of 300 g of fish per week was recommended as secondary prevention in case of diagnosed ischemic heart disease.
- It was recommended more explicitly to eat nuts and almonds every day as part of the 600 gram fruit and vegetables which was already recommended.
- In case of increased cholesterol it was recommended to limit the consumption of coffee from a coffee press, cooking coffee and Turkish coffee, if substantial quantities of coffee of the above types were consumed.
- In the advices to the participants with increased blood pressure, the priority was changed, so that the limit on alcohol consumption was upgraded compared to earlier, and limit on salt (NaCl) consumption was in particular recommended to overweight participants with increased blood pressure.

In case of overweight it was explicitly recommended to

- check the participant's consumption of sweetened drinks/soft drinks
- check the participant's portion size as regards food
- increase the consumption of fat-free food rich in protein, as this gives you good satiety.
- check the participant's consumption of any obesity-causing medicine.

Recommendations concerning physical activity

As in the 1 year and 3 year follow-up:

Everybody was advised to be physically active at least half an hour per day, but this recommendation was especially given to overweight participants, diabetics, or participants with IGT and/or increased blood pressure.

In case of type-2 diabetes or IGT the importance of demanding harder physical activity was emphasized compared to the basic level. As for diabetes it was recommended to combine circulatory training with workout.