

Abstract

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THE DEVELOPMENT AND EVALUATION OF A DIABETES EDUCATION PROGRAMME.

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The Development and Evaluation of a Diabetes Education Program

Education of the diabetic patient is an essential part of the overall management of his or her disease. Many groups of health workers have attempted to educate the diabetic, but only ~~in a few cases~~ ^{few attempts have made to} ~~have these efforts been evaluated.~~ ^{diabetic education programme.}

This study has been designed to provide an extensive education program for the non-insulin dependent diabetic and to evaluate the effect of this program on individual diabetic control.

The education program is held at a Community Centre in Geelong, a large rural town in the southern Australian State of Victoria.

Subjects were referred from local medical practitioners or volunteered to attend. The sample studied included 17 females and 4 males treated with either oral hypoglycemic agents or diet alone. Ages ranged from 35 to 79 years (mean value 61.5 years) and duration of diabetes varied from one month to 17 years (mean value 3.3 years).

The study designed is ^{as shown here.} ~~as shown here.~~ Ten subjects were assigned to the study group and eleven to the control group. At time 0, assessment one was performed for each group. This provided the following baseline data for each group member:

- Body weight, 'body mass index.
- Blood glucose (fasting and at 60 mins. and 120 mins. after a standard meal)
- ~~Urine~~ glucose (fasting and at 60 mins. and 120 mins. after a standard meal).
- Haemoglobin A1C.
- Fasting blood lipids (cholesterol and triglycerides).
- Food intake records.
- Questionnaire (knowledge, attitudes, behaviour).

The study group then proceeded to receive diabetic education in the following areas:

- 1) Causes and pathophysiology
- 2) Effects of insulin
- 3) Methods of treatment
- 4) ~~Urine~~ testing
- 5) Criteria of good control
- 6) Acute complications
- 7) Procedure when ill
- 8) Long term complications
- 9) Food case
- 10) Exercise
- 11) Employment/life insurance/travel

Three months after the initial assessment, the study group returned for reassessment one of all baseline data.

At this point, the control group was assessed a second time and admitted to the education program. This delayed intervention, for the control group, in an attempt to evaluate the effect of initial

contact on diabetic knowledge and control, and also to control for any factors external to the education program which may have affected diabetic knowledge or control over the 3 month period.

At the completion of the study both groups will have been assessed prior to beginning the program and at 3 months and 6 months after completion. These data and a subjective evaluation from each subject will serve to evaluate the effectiveness of the education program.

Carbohydrate control was measured by fasting blood glucose and blood glucose levels in response to a standard meal has improved significantly.

All blood glucose values were measured with the Ames Eyetone Reflectance Meter/Dextrostix Reagent Strip method.

Results reported here includes data on the study group (10 subjects) at assessment one and 3 months after completion of the program.

No significant changes have been observed in body weight, body mass index or haemoglobin A_{1C}.

Fasting blood glucose for the study group was 11.2 mmol/l initially (\pm 1.62, range 2.7 - 17.6) and 10.6 mmol/l (\pm 1.68, range 4.0 - 18.7) after 3 months.

A standard meal of the following composition was given to all patients:

Protein	13.3 gm	14%
Fat	12.5 gm	29%
CHO	55 gm	57%
Fibre	6 gm	
Energy	343 Kcal	

Blood glucose values 60 minutes after this standard meal was 16.3 mmol/l initially (\pm 1.53, range 7.6 - 21.0) and 13.5 mmol/l (\pm 1.52, range 6.4 - 19.7) after 3 months.

Blood glucose values 120 minutes after the standard meal was 15.4 mmol/l (\pm 1.47, range 6.3 - 21.6) initially and 12.6 mmol/l (\pm 1.42, range 6.0 - 19.0) after 3 months.

Scores of knowledge obtained from a multiple choice questionnaire were found to increase significantly after completion of the education program.

Before attending the program the mean score was 17.3 of a possible 30 (\pm 1.89, range 8 - 28). Immediately after the program, the mean score was 19.5 (\pm 2.33, range 7 - 29) and 3 months after completion of the program, the mean score was 21.9 (\pm 1.55, range 13 - 28). It thus appears that patients have retained the knowledge that has been gained during the program.

CONCLUSION

These results indicate that the non-insulin dependent diabetics who have attended the diabetes education program have increased their knowledge of diabetes and retained this knowledge for a period of 3 months, and have improved their carbohydrate control.