

Case Study

An Individualized Education Programme with Empowerment Approach: A Case Study

Erol Ozgul, PhD, RN

Assoc. Prof, Trakya University Faculty of Health Sciences, Department of Medical Nursing, Edirne, Turkey

Correspondence: Erol Ozgul, Assoc.Prof. Trakya University Faculty of Health Sciences, Department of Medical Nursing Balkan Campus 22030 Edirne, Turkey e-mail: ozgulerol@trakya.edu.tr

Abstract

Introduction: Patient education is a cornerstone of diabetes. Empowerment approach aims to enhance personal control of people with diabetes over the day-to-day management of their diabetes.

Aim: The aim of the present study was to explore the effectiveness of an empowerment based approach in a health education programme of a patient with type 2 diabetes in order to assist nurses who are working in this area to provide more effective diabetes health education and care.

Results: A personal health education programme for a patient with diabetes II was planned and applied. The patient who participated in this personal health education programme succeeded in taking her own diabetes control and management, her health status improved and experienced benefits of making necessary life style changes.

Conclusion: As empowerment is not a traditional approach for implementing it into every day clinical practice its application is not easy for the nurse and the patient too. However it can be made and nurses who decide to be involved in applying this approach should renew and develop their knowledge and abilities in diabetes continuously.

Key words: Diabetes, empowerment, nurse, self-management, education

Introduction

Diabetes is a chronic disease that demands continuous medical care and lifelong learning. To ensure success, the patient must be an active member of the health care team and knowledgeable about all aspects of diabetes and treatment (Anderson 1995, Funnell & Anderson 2004, Kyriazis et al 2013, Krepia et al 2011).

The person with diabetes must assume the responsibility for self-management. Thus the professional nurse has the challenge and responsibility to help patients gain the knowledge, skills and attitudes necessary for self care. It is essential for the nurse to provide necessary knowledge related to blood sugar levels, on diet, medications and exercise in order to reach the ultimate goal of preventing acute complications and minimizing the effects of long-term degenerative changes (Anderson & Funnell 2010, ADA 2015, Barnes & Hong 2012).

Results from trials, such as the Kumamoto and the United Kingdom Prospective Diabetes Studies, confirmed that the complications of diabetes could be delayed, if not avoided, by effective self management (Ohkubo et al., 1995; UKPDS 33, 1998; UKPDS 34, 1998). Patient health education is an important

part of the diabetes management as it allows patients to make informed decisions about their lifestyles and their diabetes care (Jerreat, 1999).

Health education does not mean only giving more knowledge to control diabetes but includes influence on health beliefs (severity of the illness, short and long term complications), on general emotions and social environment which also affect diabetes control. Health educators need to take psychosocial factors into account and start where the patient is (Meeto & Gopaul, 2005; Paterson, Thorne & Dewis 1998).

Theoretical Framework

Empowerment approach was used in this individualized health education programme. The major value underlying the empowerment philosophy is to provide care that meets the needs and expectations of people with diabetes. Empowerment refers to encouraging people to participate as equal partners in decisions about the health care they receive. For reaching this goal a person must be given sufficient knowledge about the illness.

If the patient did not have enough knowledge, he would not decide what to do or could not give right decisions for his care and treatment. In fact not only

the knowledge, knowledge combined with motivation and a range of skills would promote action, because the control of diabetes is complex (Anderson 1995, Rankin 2001; Cooper, Booth & Gill, 2003; Anderson & Funnell 2010).

Diabetes is a chronic disease that provides an experiential learning to the individual. To balance living with diabetes with the desire for a normal, healthy life a person must assume control by knowing his or her body, learning how to manage diabetes, and fostering supporting, constructive relationships (Phipps et al., 1999). By motivating and encouraging patients could learn the signals coming from the body and would learn to make decisions and use suitable strategies in order to take control of diabetes (diet, exercise, self-monitoring, insulin therapy). Patients who were unable to detect early warnings may perceive this as a loss and a threat to their ability to control their disease.

Participation is important in empowerment approach. Unless a person does not participate or show interest to the subject, it will be much difficult to empower her-him. Listening is important in this approach. We have to spend more time for listening the patients. Asking questions and using active listening techniques can help patients reflect on issues or problems and lead to identification of effective strategies that patients are willing to commit (Olgun 2003; Funnell & Anderson 2004)

Case Report

Aim

The aim of the study was to explore and ascertain the effectiveness of empowerment based approach in a health education programme of a patient with type 2 diabetes and also assisting especially diabetes nurses in providing effective diabetes education and nursing care.

Method

Initially an approval for this case study was obtained from the ethics committee of the institution and permission was taken from the manager of the clinic. The patient was randomly selected from the group of individuals receiving medical treatment and care in inpatient clinic of Endocrinology Department of Trakya University Hospital of Medicine Faculty. The patient who had some experiences, she accepted her illness, had positive attitudes and willingness to control her diabetes. She was in preparation state and by the help of empowerment approach, it is expected that she will take an active role in her diabetes management (Paterson 1998; Özcan 2001; Peterson

2002; Cooper 2003; Tan 2004).

The health education sessions' contents and times were planned according to patient's needs and preferences with the common decisions of the health educator and the patient.

Implementation

Health Educational Assessment

At the first meeting, the health educator (nurse) and the patient introduced themselves and talked about diabetes. The patient expressed her feelings about the disease and its treatment clearly and comfortably. She accepted to take education and willingly give her consent.

Background Data

- S.K. is a 42 years old woman with type 2 diabetes.
 - She was graduated from a primary school, married and had two children.
 - Her husband was a cook. He lost his job and cooking at home now.
 - They were living in a small town. S.K. was working at a textile factory. Their income was not enough and they had economic problems.
 - She had a sedentary life, during the day she was sitting and sewing at work. After long working hours, she became tired, came home, ate meal and then slept.
 - She had health insurance. So the costs of the care and medication would be paid by the health insurance, also she would not have problem while taking prescribed treatments.
 - Her mother, father and aunt had also diabetes. They were not taking any medicine and not continued on a regular diabetes control programme. They did not know much about diabetes and give no importance. S.K. was also diagnosed 10 years ago but she didn't also give importance to diabetes. By the time she didn't take care herself, ate too much, did not do physical exercise and took more kilos. She felt guilty about past years. She did not smoke and take alcohol. Her complaints were headache, blurred vision, feeling tired, tendency to sleep, numbness both her hands and feet in last days, and high blood pressure.
- She expressed that one night she had terrible headache, dizziness and vomiting. She thought her blood glucose had decreased and took some candies. Then she felt worse and her husband took her to emergency service of the town's hospital. Her blood glucose were 33.3 mmol/L (600 mg/ dl.). Insulin

treatment was began. But she didn't comply insulin therapy. According to her insulin was the last treatment for diabetes, she was too young to use insulin. Perhaps it would be a choice after some years later, but not now. Then she came to Trakya University Hospital of Medicine Faculty.

When she came to clinic; her weight: 81 kgs, height: 160 cm., BMI: 32 kg/m², waist 105 cm., hip: 120 cm., fasting blood glucose: 18.6 mmol/L (335 mg/dl), blood pressure: 140/80 mmHg, HbA1c: 10.2 %

Treatment regimen: Novorapid 3 x 24 U (07.00 am-12.00 pm-18.00 pm), Lantus 1 x 30 U (22.00 pm), an antihypertensif agent.

This patient could be a suitable case for applying empowerment approach. Because she didn't know much about diabetes, and needed encouragement to manage her diabetes care. She also had wrong beliefs about insulin treatment and the disease. These beliefs must be changed by learning the right ones. She was willing to take information and the educator believed that she could be successful when she took necessary knowledge and skills. It was quite nice that she was expressing herself, her feelings easily and comfortably and also was interested in participating this programme.

Knowledge about diabetes and it's treatment

The patient hadn't had any diabetes education before and her little knowledge about the disease came from the time of diagnosis. At this time she was not recommended a suitable programme and it was only provided with general information and some sheets related to diabetes were given to her. Therefore the patient didn't follow any specific diet, exercise or sugar self-monitoring. The health educator nurse told her not to blame herself and to look to the future. If she had taken a proper, reliable diabetes education before, everything would be much better. But it was not the time to worry about the past. It was the time to do the best to control her diabetes in the future.

Patient was receiving insulin therapy and this made her unhappy. The educator nurse asked: Why do you feel unhappy about insulin treatment? She told that she was in bad situation and insulin therapy was the last choice. And stated also that she heard from other people with diabetes that she would take some more kilos because of insulin treatment. As it was difficult for her to give existent kilos, some more would be a problem. It would take time to comply insulin treatment, firstly her wrong beliefs should be changed. The health educator nurse talked the

benefits of insulin therapy and stressed to the patient that perhaps she would gain some more kilos, but her diabetes control would be improved and she would feel better. Injecting an insulin did not hurt too much but she was complaining about pricking her finger while blood glucose monitoring every time. Patient didn't know the normal range of blood glucose and also needed knowledge about insulin injection, injection areas and blood glucose testing. Diabetes Knowledge Test was used before starting health education. She gave just 5 right answers.

Attitudes

Patient accepted her illness and also felt happy that it could be a controlled one, not something fatal like cancer. She adapted to the clinic routine in a short time, she complied with the therapy, she expressed a desire to learn much more and her family gave her essential support.

Attitude Measurement Scale was used and it was found that she felt herself near to constrained, weak, dependent, worthless, tense and unsafe. She answered that she had to care while eating, and would not eat whatever she wanted. Also she had to carry on insulin treatment and make life style changes. These made her feel constrained, weak and dependent. The diabetes disease was dominant and difficult for her. Her life with diabetes was near to monotonous.

Planning of education sessions

A health education plan including all her needs was planned. She was willing to increase and improve her knowledge about diabetes, then managing diabetes it would be more easier. The nurse and the patient intended to take a day-by-day approach and to discuss different subjects in every session. She had a big fear about insulin therapy and pricking finger was a problem for her. After screening her records and interviewing, the goals were formulated together.

Common Goals:

- Improvement of diabetes knowledge,
- Adherence to insulin therapy regimen,
- Adherence to diabetes self-care management in nutrition, medication, exercise, self-monitoring, foot care,
- Improvement of blood glucose levels, HbA1c value,
- Preventing acute and chronic complications,

At the end of the programme, Diabetes Knowledge

Test would be used again in order to evaluate her diabetes knowledge.

Implementation

Day 1:

The sessions began in a small class in the clinic. This place would be more suitable with chairs, Philip chart and books, also there would be no interruptions. The patient and the educator talked about her life, family, their relations, psychosocial problems and her feelings about diabetes. She was sad because of being away from her home and work. The educator mentioned the increasing effect of stress on blood glucose. Her awareness about worry and blood glucose control increased.

Diabetes Knowledge Test was used in order to assess knowledge. She could not answer most of the questions and this meant that she needed more knowledge. She asked why she could not be treated with tablets or diet. It was explained that her blood glucose was too high to be controlled with diet or tablets and she needed insulin therapy to lower it, which would also help to prevent chronic diabetes complications. Insulin did not mean the worst or the end, on the contrary, it saved a life of person with diabetes. Many people with diabetes used insulin, especially the ones with type 1 diabetes could not live without insulin.

Then the technique for drawing up and injecting insulin was demonstrated. The educator wanted the patient to demonstrate the technique again. Conversations went on about insulin injection areas, and the importance of rotation. She was treated with Novorapid insulin which was rapid-acting. In order to prevent a hypoglycemic attack, the importance of taking meal after the injection or maximum 15 minutes after the injection was mentioned. More information would be given in another day.

Day 2

She had a headache and did not feel good, so the programme was canceled.

Day 3

In the morning she was better and ready to begin. A small reminding of the first day's programme was made. The educator wanted her to tell the symptoms of diabetes. She verbalized most of the symptoms and added that she was still feeling some of them like polyuria, polydipsia. She was told that she would not experience them when her blood glucose decreased and optimized. Then an evaluation about the insulin injection technique, injection areas were made again.

This day, they talked about the importance of self-monitoring activities and surviving them regularly. The educator asked; What is self-monitoring? Which activities does it include? She did not understand the term. The educator told her that measuring blood glucose was a self-monitoring activity and asked what benefits could monitoring blood glucose bring? The patient answered that she could learn if her blood glucose was high or low. What else? If it was low, she would take some candies she told. If it was high? She did not answer. Then the educator explained that self-monitoring activities gave the opportunity to make life style changes live more confident and comfortably. Checking ketones in urine was also a part of self monitoring activity. It was a simple technique that could be done anywhere with some urine and a strip.

The educator explained how to obtain a blood sample for self-monitoring and how to measure the blood glucose by using glucometer. Then encouraged her to take a blood sample from her finger and measure blood glucose. She did the procedures under the educator's instructions and measured blood glucose. It was 12 mmol/L (215 mg/dl). She reminded that it did not hurt so much while pricking finger. The educator asked how she found the result? High/ low? She thought that it was high and asked the normal range. The educator told her that the normal range was 4-6 mmol/L (70- 110 mg/dl) then offered her to measure her blood glucose. The patient pricked her finger and she did the other procedures properly and she measured her blood glucose. It was 5 mmol/L (90 mg/dl). She interpreted the result and told that it was in normal range.

The patient's A1c was 10.2%. The educator explained the purpose of this test and gave information and explanations that the test shows the average value of the blood glucose level in the last three months and reminded her that it was expected to be lower than 6.0%. She was told that this test would be repeated during diabetes control in order to monitor her glycemic levels. If the result are lower, this meant a success. Then the educator and the patient agreed that they expected to see this number to be about 9% three months later.

The other important subject was hypoglycemia. Insulin using patients with diabetes who do not comply with the treatment or do not give importance to recommendations, they often experienced hypoglycemia. The educator asked the symptoms and causes of hypoglycemia and the patient gave right answers by the help of her experiences. The educator reminded her to carry candies in her bag and and put

some also near her bed in order to prevent hypoglycemia. The educator offered to talk about diabetes and its complications with her family. Because these people had to know about what to do in an emergency situation.

Day 4

In her daily life she was having breakfast, lunch and dinner, sometimes taking a snack in the afternoon. Especially when she came home late, she ate and then slept. A discussion made about the harmful effects of heavy and late eating of the dinner. The educator suggested her to eat small snacks between main meal times and talked about the relation between eating and insulin secretion. The patient realized that she had to change her dietary habits. From now on, she would take advised calories, eat more fruit and vegetables, take low fat and high fiber. She also told that she had constipation problem. They discussed the causes of constipation and the educator gave some suggestions regarding what to do in her daily life (e.g. regular exercise, fiber intake, daily separating time for defecation, drinking warm water early in the morning)

As she had a sedantary life, she had to increase her activities in order to feel herself well and decrease blood glucose level. The problem was about what she could do? The educator suggested walking half an hour at least three times a week with her husband, walking together and supporting each other would be nice, she said. Furthermore at hospitalization time the educator suggested her to walk at the corridors of the hospital and to walk at break times during work. The patient had also weight problem and she had to lose weight. She decided to put a target that losing 1 kilo for every week.

Then it was time to measure her blood glucose. She did the procedures as she was instructed and told the result. It was 283 mg/dl at 11.30 a.m. It was higher than in the morning, she said. It was 167 mg/dl at 6 a.m.

Then an evaluation about the importance and effects of diet and exercise regimens in diabetes control. It was time to take insulin. She withdrew insulin and injected herself properly. The educator congratulated her for learning and doing these procedures succesfully in a short time and offered to take a tea together.

Day 5

One of her complaints were blurred vision and feeling numbness in her hands and feet. After she had been examined by a neurologist and an

ophthalmologist, no complications were found. The educator asked her opinion about the reason of why she felt these symptoms? She said because of high blood glucose? Yes, it was true.

The educator and the patient discussed the other complications that could be happened in people with uncontrolled diabetes. She talked about the other patients with diabetes who were blind or having dialysis therapy in the clinic. She expressed her feelings that she was afraid of having long term complications.

At the begining of the programme she was worried because of staying in hospital. But now she expressed that she was very impressed from the other patients with severe diabetes complications, and she really realized the harmful effects of high blood glucose. Session went on about skin and dental care. She had dental problems. But her dentist had told her to come when her blood glucose was decreased.

Day 6

She seemed happy. Her children and husband came to see her. Information was given about the forms that must be prepared in order to take insulin and strips. The educator suggested her to write a diary and keep the records of the measurement results, advised her not to delay her controls and always came to clinic in time. A daily activity plan was formed and necessary phone numbers were given to call when she had questions or needed help.

Evaluation

During the education sessions, she was always interested in the subjects and collaboration was very important in order to reach the goals. She expressed that she had enjoyed the education process.

After the education

- Her diabetes knowledge increased and she began to give decisions about her diabetes management
- Her wrong beliefs changed and she adhered the insulin therapy. She expressed the beneficial effects of insulin therapy.
- She could test her blood glucose, make insulin injection, interpret the results and be aware of what was going on.
- She also knew the effects of diet and exercise on blood glucose control.
- After a week she lost 700g.

After a month, she seemed well. We talked about her life with diabetes. She was more adapted and

carrying a card and candies in her bag. She told that she was walking regularly and eating carefully. She lost 3 more kilos. Her fasting blood glucose was 132 mg/dl.

After 3 months, she lost 7 kilos and told that she was feeling lighter and this made her happy. She had two hypoglycemic attacks. She expressed that when she had felt the symptoms, she measured blood glucose and saw low values, then took 3 candies and rested. She also reminded she knew the causes of these attacks (being late for lunch and walking more than usual). Her bA1c was lowered to 9.3 %.

Discussion and Conclusion

Diabetes is a chronic illness requiring a patient-centered approach for effective care. Empowerment is defined as a process of education and skill development that provides people especially with chronic health problems to take responsibility for the daily management of their illness (Scamblar et al., 2014; Funnell et al., 2007). In literature, there are many researches and reviews considering relationship between self-management and empowerment approach. Anderson et al. (1995) indicated that patient empowerment is an effective approach to developing educational interventions including the psychosocial aspects of living with diabetes.

A study dealing with diabetes self-management education based on empowerment found significant improvements in body mass index and total, HDL, and LDL cholesterol levels, and mean A1c level. Also found significant improvements in self-reported behaviors, e.g. following a healthy diet, spacing carbohydrate consumption throughout the day, exercising, and monitoring blood glucose (Tang, 2005)

In the empowerment view, the primary purpose of the diabetes education is to prepare patients to make informed decisions about their own diabetes care. Thus empowerment approach needs much time and effort to learn something about a person and try to motivate her express herself.

In fact, putting it into practice in Turkey is not very easy. There is lack of general practitioner nurses, and the number of educator nurses in diabetes is very low, so separating so much time to a patient is very difficult.

In conclusion, this case study suggests that empowerment is an effective approach in diabetes education. was a good experience for both the educator and the patient. There are various education

models exist in order to understand and establish effective and efficient educational programmes. The choice of which model to use is difficult, and any preference should ensure that it is the patient's needs, which are actually being addressed.

References

- Anderson R.M. (1995) Patient Empowerment and the traditional medical model, *Diabetes Care* 18(3):412-415.
- Anderson R.M. & Funnell M.M.(2010). Patient empowerment: Myths and misconceptions. *Patient Educ Couns.* June; 79(3):277-282.
- Anderson R.M., Funnell M.M., Butler P.M., Arnold M.S., Fitzgerald J.T., Feste G.(1995). Patient Empowerment: Results of a randomized controlled trial. *Diabetes Care* 18;7: 943-949.
- American Diabetes Association (2015). Standards of medical care for patients with diabetes mellitus. Position statement, *Diabetes Care* 38(1): S20-S30.
- Barnes M. & Hong J. (2012). Exercise as a Non-Pharmaceutical Treatment Modality to Prevent Comorbidity of Type II Diabetes and Major Depression, *International Journal of Caring Sciences*, 5, (2), 203-214
- Cooper H.C., Booth K., Gill G.(2003). Patients' perspectives on diabetes health care education, *Health Care Education Research Theory and Practice*: 18(2):191-206.
- Funnell M.M., Anderson R.M. (2004). Empowerment and Self-Management of Diabetes, *Clinical Diabetes* 22(3):123-127.
- Jerreat L.(1999). *Diabetes for Nurses*. Ed: C. Pareker, Whurr Publishers Ltd. London.
- Funnell M.M., Tang T.S., Anderson R.M.(2007). From DSME to DSMS: Developing Empowerment-Based Diabetes Self-Management Support *Diabetes Spectrum* 20; 4: 221-226.
- Krepia V., Tzenalis A., Lavdaniti M., Beneka A., Psychogiou M., Serpanou I., Sapountzi-Krepia D. (2011). Diabetic patients' compliance to the recommended treatment: A qualitative study in Greece. *International Journal of Caring Sciences*, 4, (3), 126-132
- Kyriazis I., Mendrinou D., Rekleiti M., Toska A., Kourakos M., Saridi M. Diabetic Patients are often Sub-Optimally Aware about their Disease and its Treatment. *International Journal of Caring Sciences*, 6, (1), 53-58
- Meeto D., Gopaul H.(2005). Empowerment: giving power to people with diabetes. *Journal of Diabetes Nursing* 9(1):28-32
- Olgun N. *Diyabetik Hasta Eğitimi*. (2003). Ed: M. T. Yılmaz, M. Bahçeci, M. A. Büyükbeşe, *Diabetes Mellitus'un Modern Tedavisi*, 1. Baskı, Özlem Grafik Matbaacılık, İstanbul.
- Ohkubo Y., Kishikawa H., Araki E., et al. (1995). Intensive insulin therapy prevents the progression of

- diabetic microvascular complications in Japanese patients with non-insulin-dependent diabetes mellitus: a randomized prospective 6-year study. *Diabetes Res Clin Pract* 28:103–117.
- Özcan S. (2001). *Diabetes Mellitus’lu Hastanın Yönetimi ve Hemşirelik*. Ed: M. Yenigün, Her Yönüyle Diabetes Mellitus. Nobel Tıp Kitabevi, İstanbul.
- Paterson B.L., Thorne S., Dewis M.(1998). Adapting to and Managing Diabetes. *Journal of Nursing Scholarship*, 30(1):57-62.
- Peterson K., Hughes M. (2002). Readiness to Change and Clinical Success in a Diabetes Educational Programme, *JABFP* 15(4):266-271.
- Rankin S.H., Stallings K.D.(2001). *Patient Education Principles And Practice*, 4th Ed., Lippincott Williams and Wilkins, Philadelphia.
- Phipps W.J., Sands J.K., Marek J.F. (1999). *Medical Surgical Nursing, Concepts and Clinical Practice*, 6th Edition, Mosby Inc., St. Louis, Missouri.
- Scambler S., Newton P., Asimakopoulou K. (2014). The context of empowerment and self-care within the field of diabetes *Health* 18(6) 545–560.
- Tan M.Y.(2004). The relationship of health beliefs and complication prevention behaviours of Chinese individuals with type 2 diabetes mellitus. *Diabetes Research and Clinical Practice* 66: 71-77.
- Tang T.S., Gillard M.L., Funnell M.M., Nwankwo R., Parker E., Spurlock D., Anderson R.M. (2005) Developing a new generation of ongoing diabetes self-management support interventions: a preliminary report. *Diabetes Educ* 31:91– 97.
- UK Prospective Diabetes Study (UKPDS) Group. (1998). Effect of intensive blood-glucose control with metformin on complications in overweight patients with type 2 diabetes (UKPDS 34). *Lancet* 352: 854–865.
- UK Prospective Diabetes Study (UKPDS) Group. (1998). Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment and risk of complications in patients with type 2 diabetes (UKPDS 33). *Lancet* 352:837–853