Diabetes Education – International Perspective

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WHO study group (1985) has elaborated on diabetes education as follows –

Education and training of patients and their families are the foundations of good diabetic therapy. Education of the general public is an integral part of a prevention-oriented approach to diabetes mellitus. It is also essential because, at present, diabetes is often not perceived by the community or the health services as a public health problem. Accurate and comprehensible information must be provided for populations with a wide variety of cultures, ranging from highly sophisticated, technically attuned societies to those that, at best may be only semi-literate.

1. WHY EDUCATE?

A formal process of education carries enormous advantages to the health and life of the diabetic patient and consequent social and economic advantages to society.

THE PATIENT

Medical therapy and expertise of health care workers are most effective in the treatment of acute episodes of diabetes mellitus such as hypoglycemia, hyperglycemia, or severe ketoacidosis and comas. However, the majority of these episodes could be prevented by proper education and training of patients. In the daily management of diabetes, active participation of the patient appears to be the only efficient solution for control of the disease and its long term complications. Patient education and training have been shown to *reduce hospital – bed occupancy dramatically*.

BIOLOGICAL, PSYCHOLOGICAL AND SOCIAL EFFECTS OF EDUCATION

The effectiveness of educating patients in self care can be observed and evaluated using a number of criteria.

Effects on diabetic control include:

More efficient short-term and long-term metabolic control which can be evaluated by urinary glucose and ketone tests and by measurement of blood levels of glucose, glycated haemoglobin, triglycerides and cholesterol.

- Prevention of acute loss of metabolic control as evidenced by a decrease in hypoglycemic attacks and gross hyperglycemia, with or without ketosis; and
- better diabetes control during unusually strenuous physical activities or illness.

Effects on long-term complications include:

1) Decreased incidence of long-term complications; and
2) Reduced frequency of tissue damage caused by ischemia and/or neuropathy (tertiary prevention). (Patients with loss of sensation in the feet or with impaired vision require special attention).

Effects on psychological well being include:

1) Decreased fear of diabetes and its complications;
2) Decreased sense of helplessness
3) Improved acceptance of diabetes and
4) Better participation by the patient in prevention strategies and therapy.

Effects on social integration include:

1) Decreased sense of isolation as the diabetic learns to adapt management to his or her social needs;
2) Less absence from work as acute and chronic complications lessen;
3) Decreased fear of diabetes as information is transmitted to the patients' family, school teachers, employees and society in general.

Effects on the public health system may include:

1) Decreased medical and social costs of diabetes
2) Improved social welfare programs for diabetics including social security systems, life insurance, retirement plans and job opportunities.
3) The use of patient education in diabetes care as a model for other programs for chronic diseases.

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2. WHO TO EDUCATE?

There are five inter linked target groups:

1) Patients with diabetes,
2) The patients' family
3) Health care personnel
4) The community (which includes people at high risk of developing diabetes) and
5) health policy planners.

These groups can be divided into main types:

1) Those that require education in the practical management of diabetes (the patient, the patient's family and health care personnel) and
2) Those that need to be made more aware of diabetes, especially its economic and preventive aspects (the community and health policy planners).

PATIENTS

All patients need simple BASIC information about their disease and its possible complications, as well as appropriate education for day to day management. Inadequate instruction of certain diabetics is a serious clinical error that may lead to severe hypoglycemia in insulin-treated patients and progression of foot infections and gangrene in patients with neuropathy and ischemia.

Education needs to be directed to SPECIFIC groups according to age, type of treatment, and presence of long-term complications. There are special requirements for the elderly, the very young and their parents, pregnant diabetics, the blind and amputees.

Patients taking insulin or oral hypoglycemic agents need to be taught:

1) The facts about their form of diabetes
2) The skills of self-management
3) How to adjust to necessary changes in life style; and
4) How to cope with emergencies, in particular hypoglycemia

Continuous education programs for children and adolescents, and their families, school teachers, and friends should start immediately after diabetes is diagnosed.

Patients not requiring insulin therapy need to the taught :

1) The facts about diabetes and its management;
2) The basis of good nutrition, and how to achieve and maintain optimal body weight and
3) The importance of physical activity.

Patients with long – term complications need to be taught:

1) The facts about the complications, and the purpose and procedures of therapy, especially those aspects where their active participation is crucial
2) The necessary skills to prevent disabling consequences of the complications (eg., infections and gangrene of the foot)

THE FAMILY AND THE PATIENT'S ENTOURAGE

The patient's family and friends need to be given some general information about the disease and its complications. The following topics may require explanation;

1) The importance of correct food intake
2) The care of the patient during illness and
3) The recognition and early correction of emergency situations such as hypoglycaemia
4) Hyperglycaemia with or without ketoacidosis.

HEALTH CARE PERSONNEL

The education of health care personnel should cover the practical daily needs of the patients, and also the public health and economic implications of diabetes. It should emphasize the importance of promoting self-reliance in the patient.

Doctors, nurses, dieticians, social workers and allied health personnel, such as primary health care workers, should receive adequate training in educational methods and practical experience in teaching.

Information in diabetes (and other chronic diseases) must be incorporated into basic training courses in medical schools and all levels of training for primary health care workers; the information should continually be updated by in-service training in hospitals or specially organised courses.

Diabetics should be encouraged to associate with and teach other diabetics, since this transmits knowledge gained by first hand experience and develops self esteem.

THE COMMUNITY

Better understanding of diabetes by the community at large will be of direct benefit by improving the patient's *social integration.*

It should also assist in the formation of national and local *policies* for providing health care.

The community also needs to be made aware of diabetes as a public health problem and the possibilities of prevention by control of obesity and by increased physical activity, particularly in high-risk individuals.

HEALTH POLICY PLANNERS

Policy planners at local and national levels should understand the *socioeconomic* implications of the disease and the vital importance of education in the management of diabetes, and be motivated to improve and extend health services for diabetics. The financial burden of diabetes on society is well appreciated.

Policy planners should realize that diabetes and its complications represent a very large and an increasing *public health* problem.

The long-term dividends from investment in preventive health care and health education need emphasis because they are less well recognised than the *short term benefits of curative medicine.*

Adequate patient education leads to efficient secondary and tertiary prevention that could dramatically cut the cost of diabetes for the individual and for society.

National diabetes organizations, health care personnel, community based groups, and the mass media all have a major role to play in alerting policy planners to the importance of diabetes, with particular emphasis on the preventive aspects.

3. HOW TO EDUCATE?

Learning is a fundamental part of diabetic management and the resources needed for effective education must be made available.

These include personnel trained in educational techniques, literature, and equipment (black boards, slide projectors, films, computerized learning programs and games) as well as adequate facilities.

CLINICAL APPROACH VERSUS PATIENT EDUCATION

The clinical approach often seems incompatible with patient education. Traditional medical practice is based on diagnosis and cure of pathological conditions, with the patient playing a passive role. This mode of treatment is used extensively, and has become known as the *disease model.*

In contrast, patient education in treatment of chronic illness is centered in changing the patient's behaviour on self care, and thus requires the *active* participation of the patient known as *patient model.*

The *coexistence* of both types of treatment is fundamental to good care of chronic illness, but unfortunately traditional practice often predominate. It is therefore, important that health care workers are taught the principles of patient education and made aware of its many advantages

Some specific characteristics of health care providers and of patients have to be taken into account in the teaching/learning process.

HEALTH CARE WORKERS

Before they can give instructions to patients, health care workers themselves need to be taught about diabetes, its long term complications, and its acute complications, and treatment. They also need to acquire the appropriate education educational skills in the same way as they do for other forms of therapy. Their training should include instruction on how to prepare and use printed material since oral information on its own may be misinterpreted.

Printed martial also helps to foster a consistent approach among the members of the medical team. Printed information should be simple, easy for patients to understand, concise, and presented in large print for patients with visual impairment. Pictorial information should be available for semi-literate or illiterate patients.

Patients with chronic disease are not necessarily willing to participate actively in their treatment straight away. Learning becomes effective only when the patients are receptive, i.e. when the patient feels the need to learn about diabetes and to develop appropriate skills. In order to assess readiness to learn, health care workers must be capable of estimating the patient's ability to master any specific skill, prevailing health beliefs, degree of acceptance of the disease, and expectation of therapy, and how easily and how fast the therapeutic goals can be reached.

Particular *entry points* for effective education (e.g., pregnancy, inter-current illness, episodes of instability) should be recognised and exploited.

Readiness to learn is best assessed by interviews and by informal observation of the patient's performance by doctors, nurses, or other allied health personnel. Interaction between patients and health care workers is fundamental if efficient treatment of chronic disease is to be combined with satisfactory quality of life.

PATIENTS AND THEIR FAMILIES

The main goal of patient education is to help diabetics and their families to become 'active' participants in the control of the disease and the prevention of acute and long term complications; patient motivation is vital for self-care. Training patients to control their own disease is a difficult task, and several factors must be taken into account.

Health beliefs of the patient and his or her family :

These vary with ethnic group, age, sex and socioeconomic status. Health beliefs must also be taken account when planning weight reduction campaigns.

THE DEGREES OF ACCEPTANCE OF THE DISEASE

'Coping with disease' is the state reached when an individual has passed through the sequence of difficult psychological adaptations that occur when a person becomes ill.

These difficult psychological adjustments are normal and must be recognised by the members of health care teams. Patients who deny the existence of their conditions or who revolt against it will experience difficulties in learning and complying with treatment. Only by listening to patient's subjective experiences can the medical team adapt the educational and therapeutic approach to his to her needs.

NEED FOR EVALUATION

Each educational program should be reviewed periodically, and the results used for subsequent program planning and modification. Evaluation should be a continual process that measure how many of the educational objectives have been attained. An education program can only be widely implemented after its effectiveness has been validated.

EDUCATIONAL OBJECTIVES

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EDUCATIONAL OBJECTIVES

The goal of patient education is not to increase general knowledge about diabetes but to improve patient autonomy regarding therapy.

The results of education programs are therefore defined by what patients can do at the end of a learning period that they could not do before.

THE ROLE OF ORGANISATION

There are four main types of organizations that may be involved in diabetes education:

- Patient-oriented associations, both local and national
- Medical-oriented associations, both local and national
- Diabetes clinics and education centers and
- Regional, national, and international organizations such as International Diabetes Federation or Juvenile Diabetes Foundation.

It is essential that these groups work together and interact with each other. The organizations can concentrate their resources and energies on areas of special concern such as:

- The social acceptance of diabetics,
- Welfare entitlement,
- The adequate distribution of essential drugs and equipment,
- Lobbying policy planners at governmental and local authority levels.
- Funding aspects of research, and
- Protecting the rights of the individual.

INTERNATIONAL CONSENSUS – STANDARDS OF PRACTICE FOR DIABETES EDUCATION

IDF (1997) detailed an International consensus on Standards of Practice for Diabetes Education. Some of the significant recommendations are presented as follows:-

Philosophy

All people have the right to diabetes education, to assist them in the management of their diabetes and to optimize their health.

Education/awareness is the key to the reduction in, and prevention of, diabetes complications.

Educators have a pivotal role in enabling the person with diabetes to achieve optimum health.

Diabetes education should be incorporated as an integral component of national health policies.

Components of Diabetes Education

The practice of diabetes education has components of clinical care, education, health promotion, counselling, management/administration and research. Diabetes education does not exist on its own but is integrated into the total diabetes management plan. The overall expected outcome of diabetes education is to increase knowledge, build skills and develop attitudes that lead to improvements in metabolic status, quality of life, reduction in or prevention of complications and facilitation of the responsibility, decision-making and self-care of people with diabetes. It is through the achievement of these outcomes that education exerts its positive economic effects on the care of those with diabetes.

Diabetes education is carried out by a diversity of health professionals and lay people with varying types and degrees of training and skills. As a consequence this diversity makes the development of uniform standards difficult. In general standards should be comprehensible, specific, detailed, appropriate and achievable. To enable these objectives to be met on an international level, two stages of standards have therefore been described.

1. Stage one : basic (technical)
2. Stage two : optimal (professional)

A stage format allows for quality improvement but does not set a task that cannot be achieved for those countries with limited resources.

Basic (Technical level)

The basic standards of diabetes education describe the minimum level of education service required to meet the needs of people with diabetes. Basic education is technical in nature. Its practitioners work under supervision and use appropriate resources and consultation to meet client needs. Practitioners may be either lay people or health professionals. Basic standards may represent the most desirable level of education achievable in the local context of resources, staffing or culture. In other localities, basic standard may define a first step in the evolution of diabetes education services towards the professional level.

Optimal (Professional level)

The enhanced standards of diabetes education define a standard of excellence to which the professional educator should adhere. Professional educators are capable of independent practice, conducted without supervision and in collaboration with the other members of the multidisciplinary team. In addition to minimal transfer of knowledge and skill, as defined by the basic standards, practice at the enhanced level includes clinical decision-making and problem solving, both as an activity of the provider and as skills passed on the client.