

**HEALTH
EDUCATION
FOR
PEOPLE
WITH
DIABETES**



**WORLD
HEALTH
ORGANIZATION**
Regional Office
for the
Eastern Mediterranean

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HEALTH EDUCATION FOR PEOPLE WITH DIABETES

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Foreword



DIABETES PREVENTION AND CONTROL

This report follows a consultation on diabetes education organized in November 1993 by the WHO Regional Office for the Eastern Mediterranean in collaboration with WHO Headquarters, Geneva.

Education is a cornerstone of diabetes care. Unless adequate education is provided, self-care, which is an essential part of the management of diabetes, cannot be ensured. However, there are relatively few materials available which give simple and practical guidelines for diabetes education, and this is especially true for the non-industrialized countries.

This booklet not only highlights the need, but may also assist in the achievement of diabetes control, by providing a framework for diabetes education in the Eastern Mediterranean Region. Apart from discussing key topics such as strategies, problems and evaluation, the report also includes details of the roles and responsibilities, as well as the level of knowledge and skill, to be expected of the various members of the specialist diabetes team. This may be most useful in setting standards for knowledge and performance, which is an important step in the development of a comprehensive diabetes course programme. There is also an urgent need for seminars to train educators, and the report concludes with curricula and materials which may be used to develop such courses.

This is the third of a series of WHO printed documents on diabetes in the Eastern Mediterranean Region. It is hoped that it will both stimulate and inform, at a time when over one-half of all Member States in the Region have embarked on developing national plans and

programmes for diabetes. It may be useful also, in original or in modified form, in countries of other WHO regions which have similar standards and expectations for diabetes health care delivery.

The Editors

Introduction



DIABETES PREVENTION AND CONTROL

It is recognized that living normally with diabetes requires knowledge and experience built up over time. The education in self-care of people with diabetes is an essential part of their management and good control of diabetes cannot be ensured unless the requirements for education are met. The level and pace of learning of individuals and their families varies greatly.

It is important that diabetes education is not seen in isolation. It is an integral component of clinical care and forms the basis for self-management. The objectives of a diabetes control programme cannot be achieved unless effective educational programmes are developed at all levels of care: primary, secondary and tertiary. It is noteworthy, however, that primary care provision may vary from a basic level to one of considerable sophistication.

Essential to any programme of diabetes education are trained personnel with knowledge of diabetes and expertise in health education methods at the appropriate level of care provision.

There is now an extensive body of literature demonstrating that successful diabetes self-management, whether clinical or psychosocial, is achieved only when careful attention is given to two areas, namely (a) the provision of learning programmes for newly diagnosed individuals, providing the knowledge and skills necessary for living with diabetes and for ensuring good control, and (b) recognition of the attitudes, beliefs and perceptions that determine the extent to which any person develops and maintains an appropriate self-management regime.

Focusing on these two areas and recognizing the pressing need for action to promote diabetes education in the Eastern Mediterranean Region (EMR) of WHO, and to promote national initiatives in this respect, the WHO Regional Office for the Eastern Mediterranean (EMRO), in collaboration with WHO Headquarters, organized a regional consultation on diabetes education to discuss the preparation of model educational material for people with diabetes and their families, to review the approaches used and educational modules on diabetes at the global level and to discuss programmes that are most appropriate to the EMR. The consultation was held in EMRO, Alexandria, from 10 to 14 November 1993. This document represents the proceedings of the consultation and includes the conclusions and recommendations made.

Diabetes education in the EMR



DIABETES PREVENTION AND CONTROL

In many countries of the Region, diabetes and its complications are major causes of morbidity, disability and premature death. However, essential health care requirements and facilities for self-care are often inadequate. The gap in the availability of basic education services on diabetes to people with diabetes and their families constitutes a particularly serious impediment to the provision of minimum standards of health care. For many, the state of knowledge on diabetes and its management is extremely deficient and, for some, even simple information on life-saving measures, such as prevention and treatment of hypoglycaemia, is not provided. Structured education programmes are seldom practised.

Another serious obstacle in this respect is represented by the commonly held myths and misconceptions as well as inappropriate practices regarding diabetes and its management. Such false beliefs include these shown in the panel.

Myths and misconceptions

- Diabetes is a purely familial disease
- Diabetes is a contagious disease
- Diabetes is primarily caused by stress
- Diabetes is an obstacle to normal life and marriage
- Cure is to be expected after a short course of treatment
- A high blood glucose level is worse than high urine glucose level

- Medication in the form of insulin or oral agents suppress pancreatic activity and cause habituation
- Vitamins are essential for people with diabetes
- The strength and efficacy of oral medication depends on the cost of the drug
- Medication should be stopped during illness
- Herbal therapy is more efficacious and safer than insulin or oral agents
- Water intake should be decreased when passing large amounts of urine
- Tablets are the same as oral insulin
- Hot-water bottles are good for providing warmth to the feet
- Treatment should be stopped one day prior to blood sugar measurement
- All carbohydrates should be removed from the diet
- Honey is good for diabetes control
- Consuming bitter foods will buffer hyperglycaemia
- Sugar substitutes (artificial sweeteners) are carcinogenic
- Dried bread has less carbohydrate content than fresh bread
- Omitting snacks and/or one or more meals is good
- Sugar intake is the main cause of diabetes
- Dates can be eaten in large quantities; they are important for good health
- Obesity is a sign of good health and social prosperity
- If you take tablets/insulin, you can eat what you like
- Plastic syringes should be boiled before re-use
- Insulin affects the liver and kidneys adversely
- Insulin is addictive (once insulin, always insulin)
- Do not take insulin for fear of hypoglycaemia
- Insulin should not be taken if fasting during the month of Ramadan

- Insulin should be chilled; freezing does not affect its efficacy
- Exposure of insulin to room temperature for a short period inactivates it; transport of insulin vials from pharmacy or clinic to home should always be arranged in iced containers
- Exposure to sun and bright light does not affect insulin efficacy
- Reduced insulin requirements during the honeymoon period are considered a permanent cure for diabetes
- Operations or simple surgical procedures should be avoided, as wounds will not heal in diabetes, even if well-controlled
- In cold weather, you should preferably place your feet near the fire to improve blood flow

Education programmes



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There are several models of diabetes education programmes. Initially at diagnosis and also in many other situations, it is appropriate that education takes place on a one-to-one basis, with assessment, evaluation and reinforcement at least at the annual review. A programme based on individual-to-individual education is required (involving the full participation of the person concerned), with clearly defined objectives using an agreed protocol.

A common approach targeting people with non-insulin-dependent diabetes (NIDDM) is a group education programme, with specially trained educators (physicians and physician assistants) and a defined curriculum, taught in 90–120 minute sessions over a period of a few weeks. The specific objectives of such a programme include weight reduction and reduction of the use of oral hypoglycaemic agent. This model encompasses a small group of individuals with diabetes (normally fewer than 10) in order to encourage group interaction.

It is recognized that individual and small group programmes may not encompass large numbers of people, in which case information may have to be provided using a more didactic approach. If this model is used, particular attention should be given to defining objectives, working to an agreed protocol and organization.

Specific information regarding assessment for education, setting objectives, programme content planning and group organization is given in a subsequent chapter.

Strategies and organization of diabetes education programmes

In developing a programme, national, district and local systems of health care require consideration. Practical matters, such as transport and communications, liaison between different levels of health care, availability of insulin, medication, monitoring equipment and educational material need to be clarified.

Structure

The delivery of care for different categories of people necessitates differing and appropriate education methods and approaches. To ensure that all the education requirements of any defined population are met, a multidisciplinary interest group or subcommittee should be set up. At the country level, such a subcommittee should be part of the national diabetes control programme. The committee, in an ideal situation, might be composed of the following membership:

- Diabetologist/paediatrician
- Other specialists, such as a surgeon, an ophthalmologist or an obstetrician
- Dietitian
- Pharmacist
- Primary care physician and nurse with a special interest/expertise in diabetes
- Primary care worker
- Person with diabetes

For the implementation of diabetes education programmes the subcommittee should be made responsible for the education of people with diabetes and staff within their geographical area. The committee requires a leader, or a coordinator, or both.

The role of the **committee leader** is to initiate a situational analysis at all levels and, in consultation with the committee members, to plan and implement programmes based on the information available. Leadership is required regarding the training needs of the educators—these will be doctors, nurses, dietitians and other appropriately identified personnel. The same person or the **committee coordinator** has an important role in liaising with districts and localities and involving identified people in the education programme. Liaison and involvement with education specialists and academic institutions, as well as local centres for training and continuing education, should be the coordinators' initial and major contribution to the implementation of the diabetes education programme.

Organization

Education in any form requires organization. Diabetes education programmes should be integrated into existing systems of clinical care.

The organization of programmes at any level of health care provision should include the following:

- Defining the aims and objectives of learning programmes
- Identifying appropriate personnel as educators; they may be:
 - Nurses
 - Doctors
 - MCH workers
 - Other health workers
 - Traditional healers
- Lay educators might be considered (e.g. people with diabetes, teachers)
- Providing a system of training and continuing education for the educators identified, as well as primary health care providers

- Agreeing on protocols, curricula, learning methods and evaluation processes as appropriate models to be employed nationally, for discussion and refinement at the district level
- Determining the most effective and economical ways in which the programme can be implemented in each district

Personnel

Diabetes care at secondary and tertiary levels is ideally provided by a multidisciplinary team consisting of a doctor, nurse, dietitian, pharmacist, chiropodist and others, although it is recognized that some of these may not be available in many countries of the Region. At the primary care level, absence of trained health care professionals makes it difficult to provide diabetes care; therefore, one of the main priorities of the diabetes control programme should be to respond to this gap by promoting knowledge and skills of primary health care providers in diabetes care and strengthening community participation in this respect. In doing so, the following points should be considered in the identification of potential diabetes educators:

- Assessing the needs of the population and local geography
- Seeking health care personnel already in place who could be trained as diabetes educators
- Identifying lay people, locally known and accepted (for example, teachers) who could be trained
- Considering the identification of interested and appropriate people with diabetes who could be involved and trained as educators

It is important that initial training, continuing education and evaluation systems are in place for all those involved in the provision of diabetes education programmes at all levels.

Facilities

Facilities for diabetes education should be identified. The facilities already existing may vary, especially where appropriate space is limited and privacy is a problem for individual discussion. A suitable room is needed for group interaction and more extensive space, where education of large numbers is the only option. Ideally, the following equipment should be available:

- Black/whiteboard (chalk/pens)
- Display board/area (for posters, leaflets)
- Written materials
- Overhead projector/transparencies
- Slide projector
- Equipment/facilities for cookery demonstration
- Eating/drinking utensils

Materials and information

The importance and necessity of materials and information for the implementation of education programmes cannot be sufficiently emphasized. Equally, the method of distribution of materials and systems for dissemination of information to those involved in providing education require consideration.

Materials for education, for example booklets, leaflets and posters, may be produced locally, if guidelines for their production are provided. It is important that such material should be:

- Correct
- Up-to-date
- Consistent (in terms of language, style and content)
- Concise
- Simple
- Appropriate
- Friendly

- Specific
- Readable (print type: large and clear)

The use of simple diagrams and pictures is recommended and the lay-out should avoid large blocks of text. Medical terminology should be avoided, except where its use is essential.

The content should include:

- Explanation What the subject is about
- Rationale Why it is important
- Process How and when
- Practical hints Useful, friendly tips

In order to provide diabetes education, the following are ideal:

- Demonstration equipment (syringes, test strips, etc.)
- Posters (with pictorial, easily assimilated messages)
- Information booklets/leaflets
- Videos (if TV facilities are available)
- Self-monitoring diaries
- Specialist diabetes centres (personnel contacts, telephone numbers)
- Local guidance concerning criteria for referral in both acute and less urgent situations
- Information regarding local diabetes associations/groups

Whenever possible, written material should be used to reinforce explanation and discussion, rather than used in isolation and handed out without prior interaction between the educator and the individual or the family member concerned.

Local information and contact points for associated and supporting services should be available and displayed. These might include:

- Dietetic services
- Pharmacy services

- Dental services
- Optician services
- Supporting/caring agencies
- Social services
- Rehabilitation services
- Information regarding purchase of appropriate food and food measures
- Facilities available for exercise
- Travel information and advice, if appropriate

Record-keeping and communication

Information concerning the past and present status of the diabetic condition is important to both health care providers and the person with diabetes. It serves to provide guidance in routine practice, and in the event of emergency. Linkage of records between health care facilities helps to rationalize care.

In the primary care setting, the following materials for organization and recording of information may be helpful:

- An identity card/bracelet to alert strangers to the individual's diabetic status in the event of accident/emergency (such as coma)
- An appointment/follow-up card with basic details and appointment times
- A more extensive medical chart, to be retained in the clinic
- A card index of clinic patients

Nowadays, the patient index and some medical records are often computerized—in some countries, even in the primary care setting. Linkage of such patient registers between institutions may avoid multiple or contradictory treatment and advice. In the absence of such facilities, a record of the clinical condition, treatment and education kept by the person with diabetes may prove very useful. Such a card can also incorporate useful local information

(e.g. clinic/care provider, telephone numbers, hours of work, emergency procedures) and checklist(s) for individual use.

Training the educators

Since diabetes care may be provided at three levels, there are also three levels of training that may be identified for those taking on an educative role in providing diabetes education programmes.

Level 1

Health care professionals and/or health workers operating in a primary care or other setting, who may be in contact with people with diabetes, and for whom basic knowledge is required, so that these workers are aware of the problems involved, symptoms, signs and risk factors.

Level 2

Health care professionals who may have a specific role in diabetes care and education (primary care teams, specialist inpatient and outpatient teams). These groups require more in-depth and focused training, directed towards care/education in their work domain.

Level 3

Specialist diabetes teams (doctors, nurses, dietitians) who require more sophisticated training and continuing education so that they can provide a specialist resource, handle emergencies, manage complicated cases and institute and implement training programmes.

- Ideally, training and continuing education should be multidisciplinary, reflecting the multidisciplinary aspects of diabetes care and encouraging teamwork, although it is recognized that this is not always possible

- Training schemes should (if at all possible) be incorporated into existing systems of education
- Practical aspects of diabetes management and education are best taught by those in current practice

Learning outcomes and methods of evaluation for each level of training require their identification and agreement by specialist teams involved in the planning of the courses. The courses should be organized around these and include practical and experiential learning in their construction. Course planning teams will be enhanced by the inclusion of an educational specialist.

Education in practice

Learning about diabetes begins at diagnosis and continues thereafter. Education may involve a straightforward programme or a more complex scheme where psychological/social factors, long-term complications and/or other medical problems exist. Learning usually begins with the diabetic individual and/or family member/carer.

Group learning may be provided at secondary or tertiary levels or even at the primary care level if educators trained in group education are available. Group learning should support and enhance the programme of the individual concerned. This should continue according to need and be reviewed annually by an educator and/or physician/nurse specialist.

In specialist or other appropriate centres, group learning is usually planned and organized for participants identified by members of the specialist team in outpatient clinics, or referred by other physicians/nurses or primary care teams.

Group participants may be categorized as:

- People with newly diagnosed insulin dependent diabetes mellitus (IDDM)

- People with newly diagnosed non-insulin dependent diabetes mellitus (NIDDM)
- Follow up at regular intervals (e.g. five-yearly)
- People changing regime (e.g. tablets to insulin)
- Women with gestational diabetes
- People with long-term complications

Team members involved in planning and implementing the programme are usually a doctor, a nurse specialist and a dietitian (if available).

It is important that the timing of the programme take account of snack/meal times. Advice should be given to participants to bring food and a drink, especially where transport may be unreliable or long distances are to be travelled by participants. It may be sensible or appropriate to provide a suitable snack as part of the learning experience. Ideally, no more than 10 people should be invited to a group session and, if possible, a relative or friend should be included, if appropriate.

Organization of group education requires timely and detailed planning. The educating team might consider the following:

- Selecting the group to be invited
- Selecting the “teaching” team, including leader/facilitator
- Deciding the time, duration and place of session
- Arranging tea/snack (if appropriate)
- Setting agreed objectives for the session inviting participants
- Designing appropriate evaluation tools

Facilitating a group session might include:

- Preparation of the room
- Greeting participants
- Domestic arrangements
- Introductions

- Stating the aims of the session and discussing these with participants
- Identifying topics requested by participants
- Introducing topics
- Allowing discussion to progress around topics
- Summarizing the session
- Organizing completion of an evaluation form
- Arranging follow-up/further sessions
- Dealing with any personal problems following the session
- Discussing evaluation forms and sessions with other members of the team
- Recording the education session in records

Problems in giving information on diabetes

It is essential to identify those problems that impede acquisition of appropriate information in the education process. These may include:

- Providing incorrect information
- Giving inconsistent information
- Lack of up-to-date information
- Giving too much information at one time
- Giving too little information, when more is needed
- Providing information at an inappropriate time

Whether to individuals or groups, getting the message across requires:

- Discussing the learning programme with the person concerned
- Listening
- Identifying hidden worries and difficulties responding to questions
- Dealing with urgent problems first
- Providing small pieces of information at one time
- Obtaining feedback on information given

- Summarizing information given
- Demonstrating practical skills
- Being positive, encouraging and supportive
- Recording information given and skills learned

Assessment for a learning programme

The person with diabetes and/or family member are involved and encouraged to participate and even lead each session. Essential information and “messages” are provided as required and in stages. Essential information only is given at diagnosis, with sufficient time for questions and concerns to be expressed. Follow-up sessions include evaluation of previous understanding, reinforcement and positive feedback and support.

The learning process can be based on a specific system of assessment that takes into consideration the family history, past history, social history and background, state of knowledge on diabetes, patients’ feelings, attitudes and worries, educational level and eating habits and lifestyles.

Curriculum

There should be a written curriculum for all categories of people with diabetes. It should list the objectives to be achieved, methods applied, identity of the staff responsible, the time and place of programme delivery (hospital clinic, ward, community clinic, home) and the method of evaluation. The curriculum should not only cover the initial treatment period, but also describe how the education programme is to be reinforced and maintained in routine clinical practice.

Each educating team should have a protocol that includes a checklist of objectives. The objectives should cover all domains of diabetes self-management, including:

- Diagnosis
- Effects on social and personal life

- Treatment and side-effects
- Short- and long-term complications
- Food, meal planning, exercise
- Self-testing/self-adjustment of treatment
- Hyper- and hypoglycaemia
- Adjustment during illness
- Foot care

Within each domain, specific objectives should be identified to ensure attention to all factors known to influence behaviour, including:

- Knowledge
- Self-management skills
- Perception of desired glycaemic levels, desired weight and other goals
- Perception of standards and benefits achieved
- The role of family, friends and colleagues

The educating team should demonstrate that the list of objectives is shared with the patients concerned, and modify it in the light of the individual's desires and goals.

Evaluation

People with diabetes require an evaluation of their own learning—for example, self-management behaviour, standards of glycaemic control and the determinants of behaviour previously outlined. This assessment should ideally be updated not only after the initial learning programme, but on a yearly basis (at the annual review).

Centres for diabetes education and support

It has been recognized that a special centre for diabetes care (including education and support) provides a focus for people with diabetes and health care professionals and others involved in diabetes care. The WHO regional programme on diabetes control recommends that at least one national centre or institution specialized in diabetes should be established and supported in every country. However, such a centre, which is essential for research and training, does not need to be sophisticated or expensive. As far as education is concerned, it can be:

- A contact for patient self-referral
- A facility for advice, education and support
- A store for material resources

In addition, a diabetes centre can, in itself and over time, become (at national, district or local level) an important resource in promoting **the public awareness of diabetes** which is essential in identification, early diagnosis, prevention of complications and a major goal of any diabetes prevention and control programme.

Role of the specialist team in diabetes care



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The specialist team in diabetes care has an important role in providing expertise (based on training and experience) for the management of diabetes in the hospital setting, the instigation and implementation of education programmes in any setting and the provision of advice and resources in the community to an agreed standard.

Ideally, the multidisciplinary team should include, as a core group:

- A physician/paediatrician
- A nurse educator
- A dietitian
- A chiroprapist (if available)

An extended team, where communication and collaboration are required, might include, according to the local situation:

- An obstetrician
- A vascular surgeon
- An ophthalmologist
- A renal physician
- A neurologist

Teamwork in diabetes care is important for mutual support, setting and monitoring standards of care, promoting diabetes education, good clinical practice and fostering liaison and good relationships with other health care professionals.

Role of the diabetologist

The diabetologist is the physician with a special *interest, training and experience* in the management of diabetes.

The responsibilities should include:

- Being involved in the *leadership* of diabetes care in a district
- *Training and postgraduate education*
- Dedication to raising *awareness* of diabetes
- Competing for *finance and resources* (human and material) to support diabetes care
- Supporting a *multidisciplinary team approach* in the provision of diabetes services

Role of the dietitian

Where possible, a dietitian should be trained and involved in the management of people with diabetes, working with a physician and diabetes nurse in a team setting. It is recognized that the dietitian may be involved in providing other dietary advice. As *healthy eating and maintenance of ideal weight* are the “cornerstones” of diabetes treatment (and prevention), the particular responsibilities of a dietitian in diabetes care should include:

- Assessment of eating habits ensuring adequate nutrition (especially in the young and elderly)
- Promoting healthy eating patterns
- Negotiating change in eating associated with lifestyle
- Advising on eating associated with activity (prevention of hypoglycaemia)
- Helping people to maintain weight
- *Helping people to reduce weight*
- Providing advice and planning for people with special dietary needs (e.g. those with hypertension, in renal failure)

In addition, the dietitian is an important source of all aspects of dietary advice and should be involved in the provision of training and continuing education programmes for other health care providers in the hospital and the community.

Role of the nurse and midwife

In proposals for action for implementing the World Health Assembly resolution WHA45.5, which aims at strengthening nursing and midwifery in support of strategies for health for all, the following vision for nursing and midwifery in the EMR was developed:

To have nurses capable of meeting the challenges of the rapidly changing world and meeting the present and future health needs of the people in an efficient and cost-effective manner as members of the health team, with the ultimate goal of contributing to the maintenance and/or improvement of quality of life.

The regional plan which was discussed at the second meeting of the Working Group for Promoting Nursing and Midwifery Development in the Region, proposed the following goals:

- Goal 1: To define the roles and responsibilities of nurses with involvement of the other health members in the community.
- Goal 2: To ensure that the education system for nursing is flexible and responsive to health care needs.
- Goal 3: To strengthen knowledge, develop flexible attitudes to the team approach, ensure high levels of skills and place all within a perspective of leading towards the future.

Reflecting these goals and raising awareness and meeting the needs of people with diabetes in the EMR, the provision of diabetes care (including education) can encompass nurses and midwives at any level in hospital and primary care settings.

The Consultation identified the following target groups of health workers/nurses/midwives and their roles and responsibilities in diabetes health care at three levels. The roles and responsibilities will no doubt vary according to the knowledge and skills of health professionals and the availability of resources.

Level 1

Target group

- Nurses providing primary care
- Midwives in hospitals and primary care
- Trained assistants/workers in primary care
- Nurses in hospital outpatient settings

Responsibilities

- Identification of people at risk of developing diabetes
- Recognition of symptoms of diabetes
- Recognition of hyperglycaemia, hypoglycaemia and ketosis
- Recognition of people at high risk for foot problems
- Detection of deteriorating foot problems (for example, infection)
- Knowledge of criteria for timely referral and correct action to be taken with respect to above

Management skills

- Understanding the concepts of healthy eating and meal planning; educating appropriately
- Ability to monitor diabetes control (urine/blood tests); educating

- Measuring height, weight and blood pressure
- Recognizing species/type of insulin, measuring and mixing a correct dose of insulin, administering insulin at the right time and in the appropriate (rotated) site; educating
- Providing education relating to foot care
- Applying prescribed treatment/dressings to foot lesions
- Recording information about care provided
- Liaising with other health care professionals

Level 2

Target group

- Nurses providing hospital care at secondary and tertiary levels
- Nurses/midwives in community polyclinics

Responsibilities

- As at Level 1 (to a higher level depending on the needs of patients, situation and setting). and in addition:

Management skills

- Assessment, care and education of people with newly diagnosed diabetes mellitus
- Understanding and appropriately administering oral hypoglycaemic agents and knowing of their side-effects
- Recognition, prevention and treatment of hypoglycaemia
- Understanding problems relating to subcutaneous insulin injections
- Administration of intravenous insulin and intramuscular insulin
- Pre-operative care of people with diabetes mellitus

- Post-operative care of people with diabetes mellitus
- Application of dressings to feet
- Care of foot ulcers

Level 3

Target group

- Trained hospital/community nurses with an interest in, and commitment to, diabetes care (**diabetes nurse educator**)
- Nurses in diabetic clinics. The nurses at this level may be considered **diabetic nurse educators** or **specialists**. They are trained nurses with extended knowledge and skills in diabetes, as educators, managers, researchers, consultants, communicators and innovators, held responsible for their actions. The diabetic nurse educator/specialist works wholly in diabetic care, either full- or part-time with a physician or paediatrician involved in diabetes. This person may be based in a central or district hospital or primary care, but should be available in either setting as a resource person for adults, children, families and other health professionals in the district

Roles and responsibilities

- The skills identified relating to responsibilities at Levels 1 and 2 should all be incorporated into the role of the diabetes nurse educator at Level 3. In addition, the diabetes nurse educator, working with the diabetes team, provides the following:
 - Advice and a programme of education for the individual and the family concerned, allowing them to come to terms with, and cope with, diabetes
 - Follow-up support, advice and education for the individual and family in order that their quality of life is retained and maintained

- Once trained, the diabetes nurse educator can help in stabilizing the person with diabetes newly placed on insulin therapy, thereby reducing inpatient admissions and costs. This can take place in an outpatient or community setting, if local facilities and the situation are appropriate

The diabetes nurse educator should be able to:

- Understand blood glucose control and how to monitor it, using appropriate and available testing material; advise on self-monitoring and information on monitoring equipment (if available)
- Provide information on the detection, prevention and treatment of hypoglycaemia
- Provide advice on the detection, prevention and treatment of hyperglycaemia and ketosis (e.g. during illness)
- Advise and educate to reduce risk factors for complications
- Identify foot problems and advise/refer appropriately, in association with the physician involved
- Provide education on the prevention of foot problems to people with diabetes and their families
- Facilitate all aspects of diabetes care with appropriate health care professionals and others (e.g. teachers, employers)
- Provide the necessary expertise and material resources, where requested or required, and as availability allows
- The diabetes nurse educator should have the necessary qualities and skills in counselling, advocacy and facilitation in order to fulfil the role and carry out the responsibilities described

Leaders

In order to develop and set into place the roles and responsibilities of nurses and midwives in the provision

of diabetes care at all levels and in any setting, leaders in the field are required. These diabetes nurse leaders should have experience in diabetes care and be currently in practice. The diabetes nurse leader(s) should play an important role in training and coordinating nurses and midwives in each country and will require additional training.

A proposal for a foundation course in diabetes care for nurses and midwives which can be modified is included as Annex 2. An outline for a proposal for a training course for the trainers (diabetes nurse or diabetes nurse educator) is also included as Annex 3. Annex 4 is a course evaluation form for participants in either course.

Educational material



DIABETES PREVENTION AND CONTROL

Given the considerable magnitude of diabetes prevalence in the Region, there is a definite shortage of the necessary educational resources, such as books or other educational material. The need for educational publications is more pressing in the absence of formal education programmes and the lack of availability of such services in primary health care. There is an urgent need to develop educational material focused at the appropriate level, consistent with the local situation and responsive to the local needs, both for people with diabetes and their families. The individual with diabetes needs to learn and understand as much as possible about the problem and how to manage it and lead a full and productive life.

Recognizing this need, the members of the Consultation discussed the production of educational material relevant to the situation and existing problems encountered in the management of diabetes in the Region. The main objective is to provide people with diabetes and their families with sound information on the disease, how it affects their lives and how to manage it and achieve good control that can lead to prevention of complications. Particular emphasis should be placed on enlightening the individual on aspects where ignorance can be damaging and potentially lethal and on clarifying issues around which myths and misconceptions prevail. The proposed contents of such educational material is included in Annex 5.

Conclusions and recommendations



DIABETES PREVENTION AND CONTROL

Diabetes education is an integral part of a national diabetes control programme. It requires appropriate attention, planning and evaluation. Ignorance and a lack of knowledge of certain aspects related to diabetes care can be damaging and potentially lethal. There is a serious gap in the provision of basic educational services to the majority of people with diabetes in the Region. These people and their families often have no access to sound and reliable information and lack the essential skills necessary for optimal management of diabetes and the prevention of its potentially lethal complications.

To promote diabetes education in the EMR, the following recommendations have been made.

1. National authorities are urged to give priority to the promotion of diabetes education in its various forms and methods within the framework of the national diabetes control programme. Education programmes should be appropriate to local needs and conditions.
2. Medical and nursing education institutions are invited to review curricula as well as teaching/learning methods in order to strengthen knowledge, skills and attitudes essential for optimal diabetes care.
3. Continuous medical/nursing education is an essential component of any diabetes education programme. Ministries of health and the responsible institutions should ensure that health professionals at all levels of health care are motivated and up-to-date concerning currently approved knowledge and skills for the optimal education and management of diabetes.

4. The serious consequences of inadequate diabetes education should be highlighted to all Member States. The recommendations made to bridge this gap and improve the situation should also be disseminated.
5. The importance of promoting the development and role of the “diabetes nurse educator” in the EMR should be emphasized. A model training course designed to train the trainers (potential future educators) should be organized at the regional level. Such a course should aim to promote national capacities in diabetes education and provide the nucleus for similar training activities at the national level.

Annex 1
List of participants at the Regional
Consultation on Diabetes Education
Alexandria, 10-14 November 1993



**DIABETES
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- Dr Samir H. A. Khalil (Egypt)
Dr Najmeldin Ruznamaji (Iraq)
Dr Ibrahim Shcrif (*Libyan Arab Jamahiriya*)
Dr M. Osama Khatib (Saudi Arabia)
Dr El-Dhaw Mukhtar (Sudan)
Ms Mary MacKinnon (UK)
Dr Ala'din Alwan (WHO)
Dr Hillary King (WHO)

Annex 2

Outline and structure of a foundation course in diabetes care for nurses and midwives



**DIABETES
PREVENTION
AND
CONTROL**

A foundation course for nurses, midwives and health/ workers in primary care in the Eastern Mediterranean Region.

Introduction—course plan and information

The suggested course is of five days' duration. The five days can be in one block, or as a one day release over five weeks, or 2 two-day blocks and one day over three weeks.

The duration of the course, contents and other arrangements are subject to the local situation and level of competence of course members.

Frequency and availability of course

As locally identified/required.

Attendance requirements

Each participant is expected to attend *all* of the course. Should part of the day or days be missed, time may be made up through attendance at the next course (if possible) of the part that was missed.

Certificate of attendance

A certificate of attendance should be provided on completion of the course (35 learning hours).

Assessment

Self-evaluation is encouraged in association with a pre- and post-course assessment. A case-study and/or learning journal may also be submitted on completion of the course and prior to certification.

Course evaluation

Each participant should be provided with an opportunity to evaluate the course:

- In the group setting
- Individually, by anonymous questionnaire

Course participants

The number of participants should (preferably) not exceed 20.

Course teachers/planning team

Course teachers should ideally be those in clinical practice involved wholly or mainly in diabetes care. A physician, a nurse specialist (or a nurse with knowledge/experience of diabetes care) and a dietitian should be course members of the planning/teaching team. Specialist expertise may be enlisted for specific sessions. A course leader should be identified to lead the planning/teaching team.

Administration

Administration is required for course planning, advertising, allocation of places, course arrangements, including room bookings and preparation of course materials.

Course costs

Course fees may be reduced if sponsorship schemes are employed for the course itself or for individual course participants.

Teaching/learning methods

The course is essentially practical, but theoretical principles appropriate to the level of course participants will be provided. Interaction between participants themselves and between teachers and participants should be encouraged. The following teaching methods may be employed:

- Keynote presentations (20 minutes)
- Group discussions
- Small group workshops
- Demonstration
- Practical sessions
- Role play
- Individual support/sponsorship
- Paired learning

Course programme

The programme encompasses 10 Learning Outcomes over the five-day course.

Course aim

To provide an opportunity for the participants to obtain an overview of diabetes mellitus, including the progress and treatment of the condition.

First day

Learning Outcome 1

Develop an awareness and understanding of diabetes *mellitus* in the population in relation to the WHO regional programme on diabetes.

Content

- Epidemiology
- Types of diabetes
- Signs and symptoms
- Diagnostic criteria
- Implications for the newly diagnosed
- Myths and misconceptions
- WHO regional programme on diabetes control

Learning Outcome 2

Understand the anatomy, physiology and biochemical pathways involved as applied to the maintenance of normal blood glucose levels.

Content

- Anatomy, physiology
- Biochemical pathways
- Normoglycaemia
- Hyperglycaemia/ketosis, ketoacidosis
- Hypoglycaemia

Second day

Learning Outcome 3

Acquire knowledge and develop the skills needed for treatment and insulin delivery systems.

Content

- Principles of dietary measures
- Food management

- Meal planning
- Maintenance of weight control, weight reduction
- The role of exercise
- Oral hypoglycaemic therapy—indications, drug groups, doses, interactions and side-effects
- Insulin therapy—indications, species, types, doses, side-effects, duration
- Insulin delivery systems, including drawing up of insulin, injection technique, site rotation and timing

Third day

Learning Outcome 4

Know the methods, practice, interpretation and appropriate action in relation to the monitoring of diabetes control.

Content

- Hyperglycaemia—signs, symptoms, prevention and control
- Recognition, prevention and treatment of ketosis, ketoacidosis
- Management of diabetes during illness/infection
- Recognition, prevention and treatment of hypoglycaemia
- Understanding blood glucose control
- Methods of urine and blood testing and monitoring
- Availability of testing materials; care and education regarding their use
- Interpretation of tests
- Recording and action required on results of tests

Learning Outcome 5

Consider the role of the specialist team at secondary/tertiary levels.

Understand the role and responsibilities of the nurse/primary care worker in diabetes care.

Content

- The role of the specialist team/centres
- The role of primary care
- The role of secondary care
- The role of tertiary care
- Criteria for referral

Fourth day

Learning Outcome 6

Consider standards of diabetes care and quality assurance in all circumstances and settings.

Content

- The minimum standard of diabetes care
- Quality assurance
- Health promotion
- Education for self-management
- Assessment at time of diagnosis, annual review and routine review
- Clinical management; guidelines; protocols
- Nursing care in hospital and community settings

Fifth day

Learning Outcome 7

Have an overview of the recognition, treatment and ongoing surveillance for the following:

Content

- Hypertension, cardiovascular risk factors/ complications (macro/micro vascular disease)
- Diabetes retinopathy
- Diabetes nephropathy

- Autonomic/peripheral neuropathy
- Foot care; feet at risk; criteria for referral

Learning Outcome 8

Understand the personal and family implications of living with diabetes, including the social and legal issues relating to the condition.

Content

- Everyday life with diabetes
- Activity, sport, leisure
- Employment/travel/driving
- Lifetime changes
- Legal issues

Learning Outcome 9

Know the services available for the provision of diabetes care, including the role of health care professionals/others involved and criteria for referral to them and communication pathways.

Content

- The role of health care professionals/others
- The role of allied specialties
- Criteria for referral
- Shared care
- Communication pathways (recording information/audit)

Learning Outcome 10

Acknowledge the role of support groups and other agencies involved in diabetes care.

Content

- Role of support groups
- Role of diabetes associations and other supporting agencies (national/local)

Annex 3

Outline for a training course for the trainers (diabetes nurse, diabetes nurse educator)



**DIABETES
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Duration

Ten days

Content

The course may basically follow the path of the foundation course in terms of topics related to diabetes care, but at a higher level to ensure more in-depth coverage of the various health care issues.

The contents of the course will, in addition, encompass the following:

- Identification of health needs
- Situation analysis
- Co-orientation; regional; district
- Communication (problems, barriers)
- Supplies
- Facilitating change (patient empowerment)
- Teamwork
- Preparing educational material
- Health promotion
- Setting up of training programmes
- Evaluation of training programmes
- Recruitment
- Management and personnel issues
- Administration

Learning Outcome

Learning Outcomes will be constructed in accordance with the skills and responsibilities of the diabetes nurse and diabetes nurse educator as identified in the main text of the report (Level 3). The contents of the course and teaching/learning methods will be developed so as to allow achievements of these outcomes.

Annex 4

Questionnaire—overall course evaluation by course member

Identifying yourself on this questionnaire is optional. Should you feel that you can complete the questionnaire more freely if you remain anonymous please feel free to do so.

Date: _____ Current clinical placement: _____

Years post-qualification experience: _____

Please rate your responses to the following statements on the following scale:

0 disagree 1 uncertain 2 agree 3 strongly agree

It would be helpful if you could expand upon your answers in the spaces for comments.

1. The information I received before starting the course was sufficient for me to know what was expected of me.

Rating: _____

Comments:
.....
.....

2. The information I received before starting the course was sufficient for me to know what to expect from the course.

Rating: _____

Comments:
.....
.....

3. The course covered the theory outlined in the curriculum.

Rating: _____

Comments:
.....
.....

4. The course enabled me to study recent developments and trends related to diabetic nursing practice.

Rating:

Comments:
.....
.....

5. The course content was relevant to my professional needs.

Rating:

Comments:
.....
.....

6. The teaching style and methods used in the course were appropriate.

Rating:

Comments:
.....
.....

7. Facilities (accommodation, equipment, libraries, etc.) for the course were satisfactory.

Rating:

Comments:
.....
.....

8. I was able to integrate my experience of the course with my clinical practice.

Rating:

Comments:
.....
.....

9. I was able to obtain help and support from the teaching staff, as required, during the course.

Rating:

Comments:
.....
.....

10. I was able to obtain help and support from my managers, as required during the course.

Rating:

Comments:
.....
.....

11. The course fulfilled my own expectations and personal objectives.

Rating:

Comments:
.....
.....

12. The course has motivated me to pursue those issues of which I was made aware.

Rating:

Comments:
.....
.....

13. Having completed the course, I feel that I am able to increase the effectiveness of my clinical practice.

Rating:

Comments:
.....
.....

14. Overall, the course has been stimulating, enjoyable and worthwhile.

Rating:

Comments:
.....
.....

15. If you have any suggestions for improving future courses, please state below:

Comments:
.....
.....

Thank you for your help.

Annex 5

Educational material for people with diabetes and their families



PROPOSED CONTENTS (with special reference to areas requiring special emphasis)

1. What is diabetes?

- Definition of diabetes in simple terms
- Basic anatomy and physiology, including hyperglycaemia and glycosuria
- Types of diabetes

2. How can diabetes affect you?

- Nature of diabetes; risk factors; determinants, including the role of heredity
- The importance of self-care. The disease can be modified by patient's awareness and active contribution in management
- Complications can now be prevented or delayed

3. Food (two chapters for the two types of diabetes)

- Healthy feeding
- Regular meals and meal planning
- More complex carbohydrates
- Less sugars
- Less fats, types of fats
- Weight reduction

4. Exercise

- Decreases obesity
- Improves metabolic functions
- Important for prevention of cardiovascular complications
- Types

5. Oral Therapy

Is not a substitute for healthy eating habits

6. Patients requiring insulin

- Insulin
- Types of insulin
- Technique of injection
- Preserving insulin
- Sites of injection
- Insulin and exercise
- Insulin and snacks
- Readjusting the dose

7. Hypoglycaemia**8. Hyperglycaemia****9. Self-monitoring****10. Care of your eyes****11. Care of your feet****12. Diabetes care (health care needs or requirements)****13. Diabetes and your family**

- Relevance to day-to-day life
- Contraception

- 14. Pregnancy and diabetes**
- 15. Children and diabetes**
- 16. Diabetes in the elderly**
- 17. Diabetes and other illnesses**
- 18. Diabetes and surgery**
- 19. What about smoking?**
- 20. People with diabetes in society**
 - Driving
 - School
 - Work/employment
 - Travel
 - Immunization
 - Societies: camps, etc.
- 21. New hopes**

