



Preliminary report of the Southeastern Anatolia Diabetes Project: activities of the Diabetes Nursing Association

N Olgun*, S Ozcan, H Pek, T Yilmaz, S Erdogan, S Oktay

Introduction

The incidence of diabetes and its complications has increased dramatically all over the world. In addition, it is estimated that more than three million people die from diabetes.¹ For this reason, prevention and control programmes are significant in diabetes studies.² In 2003, there were 194 million people with diabetes in the world, 2.6 million of whom lived in Turkey. By the year 2030 this figure is estimated to reach 366 million and most of this increase will be in the developing countries.^{1,3-6}

According to the Turkish Diabetes Epidemiology Project (TURDEP) results,^{5,6} prevalence rates for diabetes and impaired glu-

Abstract

Southeast Anatolia has the highest prevalence of diabetes and the lowest quality of patient care and treatment in Turkey. Reported severe organ damage and mortality rates are above the average of Turkey in general. The Southeastern Anatolia Diabetes Project (GAPDIAB) started in November 2000. This paper describes the development and implementation of the GAPDIAB project.

The primary goals of the project were to increase awareness of diabetes in Southeast Anatolia, to educate health care professionals in the management of diabetes, and to develop appropriate diabetes services within the region. Under the leadership of the Turkish Diabetes Foundation, the Diabetes Nursing Association (DNA) took part in the project co-ordination group with six universities of this region and the Turkish Medical Association, the Turkish Pharmacist Association and the Turkish Dietetic Association. The DNA provided continuous education to nurses taking care of people with diabetes, prepared educational materials, and helped and supported the nurses who attended the courses of diabetes to work as agents of change. The DNA also participated in several activities to raise awareness of diabetes in society.

During the study period, 496 nurses participated in the educational courses which were organised at different levels. Eleven of the nurses were chosen as key officials in the region. New educational materials were prepared for the nurses. Besides nurses, 1776 physicians and 67 dietitians also participated in the educational programmes. Twenty-three diabetes units and six insulin support units were established in the region. The percentage of patients with diabetes requesting regular reviews increased from 5–10% to 35–60%, and the insulin administration rate from 24% to 34–64%, depending on the area. In January 2003, responsibilities of the project were transferred to the Regional Coordination Council. With the help of a multidisciplinary approach to diabetes care in the context of a diabetes project, the number of patients with diabetes receiving care and the awareness of nurses' role in diabetes care have been increasing in Southeastern Turkey. Copyright © 2005 FEND.

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Key words

diabetes project; nurse education; Diabetes Nursing Association; Turkey; awareness; quality of care; role of nurses

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cose tolerance were 7.2% and 6.7%, respectively. One-third of diabetes cases had been newly diagnosed. The results showed that diabetes prevalence and the rate of newly diagnosed diabetes in Southeast Anatolia were above the average for Turkey. Especially, in Gaziantep, which is the largest city in the region, the prevalence of diabetes is 9.6%; Gaziantep was the city with the highest prevalence of diabetes both in the region and Turkey.^{6,7} In

view of IDF data,⁴ it is apparent that the prevalence of diabetes in Turkey is above the global average.

Both the Diabetes Control and Complications Trial (DCCT)⁸ and the UK Prospective Diabetes Study (UKPDS)^{9,10} demonstrated that a reduction in the magnitude of diabetes complications requires diabetes management strategies aimed at improved glycaemic control, including close, ongoing support from a health care team and



advanced patient knowledge and skills. Providing this level of management will require major changes in the health care system and patient self-care practices. The DCCT and the UKPDS demonstrated that intensive diabetes management can achieve HbA_{1c} levels close to the ADA treatment goal of 7%, resulting in significant reductions in diabetes complications in persons with either type 1 or type 2 diabetes.¹¹

An on-going study, 'Evaluation Project of Diabetes Dependent Chronic Complications Prevalence in Turkey', has found that mean HbA_{1c} concentration is 8.6% in Turkey. This figure rises to 9.6% in

Southeast Anatolia. These data raise the question: 'Why Southeast Anatolia?' Investigations have shown that some serious insufficiencies negatively affect the care of people with diabetes in the region.^{5-7,12}

- In the last 10 years, Southeast Anatolia was affected by financial losses due to internal political struggles.
- There were only five diabetes centres for 400 000 people with diabetes.
- Social security and health insurance systems have been insufficient, and both adults and children are not receiving enough insulin.
- The percentage of diabetic (8%),

obese (24%) and hypertensive (28.8%) patients was higher in comparison with the general averages in Turkey.

Taking this information into account, and at the request of the Turkish Diabetes Foundation, the Southeastern Anatolia Diabetes Project (GAPDIAB) was launched in 2000.

Objectives

There were three main objectives of GAPDIAB: (1) to increase awareness of health care professionals (HCPs) and the population in Southeast Anatolia that diabetes is

Beliefs/Worries/Questions	Interventions/Notes
• Does diabetes cause infertility?	Infertility is an especially critical problem for this region. Men may go for the second marriage even though the problem stems from themselves. It was made clear that diabetes is not a cause of infertility
• Does diabetes give me a problem in marrying and finding a job?	Diabetic people generally were avoiding telling others about their illness when they marry or apply for a job. Giving examples of many successful diabetic politicians and artists, it was made clear that diabetes does not constitute a hindrance to marriage or working
• Does diabetes affect sexual life?	It was clarified that diabetes won't influence sexual life if it is controlled well. The diabetic patients who had a problem in this matter were directed to the relevant consultants or centres
• I don't tell anybody that I have diabetes!	It was explained that diabetes should not be perceived as an infectious, desperate and hidden illness
• Diabetes is an illness for the rich	This anxiety stemmed from the expensiveness of diabetic products and the fact that diabetes needs a special diet. Their interest was drawn to 'the principles of healthy nutrition' from the concept of 'a diet'. The regional foods that they may choose were recommended from the lists prepared by dietitians
• Does insulin create drug dependence?	It was explained that insulin is a hormone secreted in the body, that it can be supported from outside in a case of insufficiency or dysfunctionality, and that it is not addictive
• Is insulin produced from pig?	Muslim communities avoid pork products because of religious beliefs. They were informed that human insulin is available on the market and insulin from pigs or cows is not sold in this country any more
• Can I consume diabetic products as much as I wish?	There are many diabetic products available on the market. The importance of reading labels of these products and paying attention to the usage limits was explained with examples

Table 1. Some beliefs and questions of people with diabetes about diabetes in the public meetings

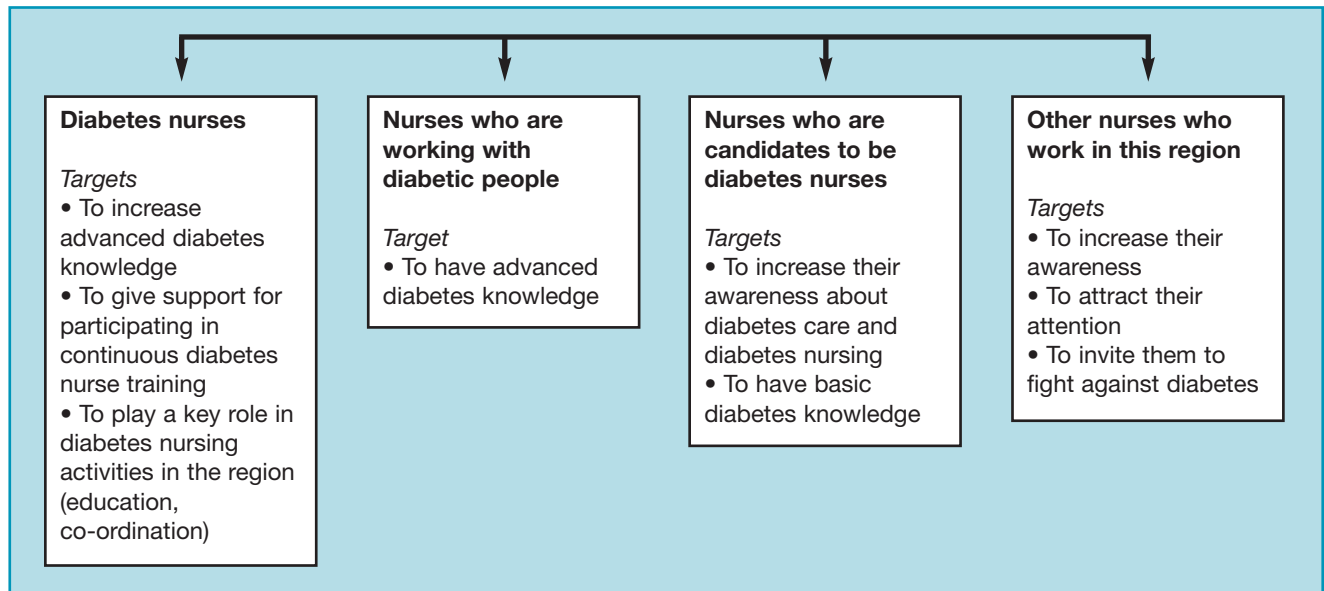


Figure 1. Nurses' Groups in the GAPDIAB project: targets for each group

an emerging public health problem; (2) to educate HCPs in the management of diabetes; and (3) to develop appropriate diabetes services for the protection of children with diabetes and to establish diabetes support units. The activities planned for the realisation of these objectives focused on primary, secondary and tertiary prevention.

In the light of these objectives the role of the Diabetes Nursing Association (DNA) was: to give continuous education to nurses who work with people with diabetes; to participate in informing the community about dealing with diabetes, developing and preparing educational materials; and to support the nurses who have been educated by the DNA as a motivator.

Ethics

Necessary permissions were obtained for the project from the Ministry of Health (MoH) and the governors of Southeast Anatolia. The first meeting of the project was held with the participation of the MoH and the Southeastern Anatolian governors. The local administration has provided support in the organisation and

announcement of meetings, providing venue and vehicles.

Design of the GAPDIAB project and interventions

The project was carried out by a large group of physicians, nurses, dietitians and pharmacists. Universities from the region, the DNA, the Turkish Medical Association, the Turkish Pharmacist Association, the Turkish Dietetic Association, and the media all participated. The project was launched in November 2000 and it still continues. At the beginning of the project, the representative from each province who was also on the co-ordination committee presented an evaluation report on his/her own province. The current numbers of diabetic patients, diabetes centres and HCPs (doctors, nurses and dietitians) working in these diabetes centres, as well as educational and other care deficiencies, were discussed. A working plan was prepared for each province, and the reports and working plan were distributed through a bulletin.

The DNA worked for a 26-month period in the six project provinces between November 2000

and January 2003. Region co-ordinators, leaders and assistants for educational programmes were appointed, and team work was prepared. Region co-ordinators described the cultural characteristics of the region and their life experiences. International and national standards relating to diabetes management and education of HCPs in diabetes were discussed in each programme.^{13–22}

DNA activities were executed through two main programmes, one of which was the public meetings organised for diabetic patients and their relatives; the other was educational conferences for nurses. In both programmes, educational activities for nurses were incorporated, and DNA members who were faculty nurses and selected diabetes nurses participated in public meetings with HCPs living in the region and other participants in the project.

1 Programmes for people with diabetes and their relatives.

Fifty public meetings were arranged in cities and were announced through placards, radio and TV. Public interest was very high for these meetings and in total 4900 people partici-



pated. Among them were diabetic patients, their relatives, people at risk for diabetes and those who just had an interest in diabetes. Physicians, nurses, dietitians and people with diabetes from patient associations participated as speakers and consultants. Short diabetes courses given by diabetes teams were followed generally by question and answer sessions. At the end of each session, participants' individual problems were evaluated.

As shown in Table 1, some questions and comments raised in the public meetings reflected beliefs and worries about diabetes.

2 Programmes for HCPs. At least two educational seminars for HCPs were given in the six cities; the seminars were parallel and complementary. The education standards that the ADA, the AADE and the IDF diabetes educators proposed were taken as a guide in the preparation of these programmes.²³⁻²⁹

Nurse education programmes

First announcements about the educational programmes were made to hospital managers and regional administrators in nursing schools. At the beginning, socio-demographic data, work status and the educa-

tional needs of nurses were assessed by questionnaire. Diabetes education programmes were planned by the DNA for four different categories of nurses (Figure 1). The programmes included two stages, responding to the needs of different groups, providing a minimum common share and being in accordance with the education of other HCP groups. Among the nurses participating in the second stage educational programme, some were chosen for advanced courses for diabetes nursing. Educational courses took place in big cities, and nurses working in small cities were invited.

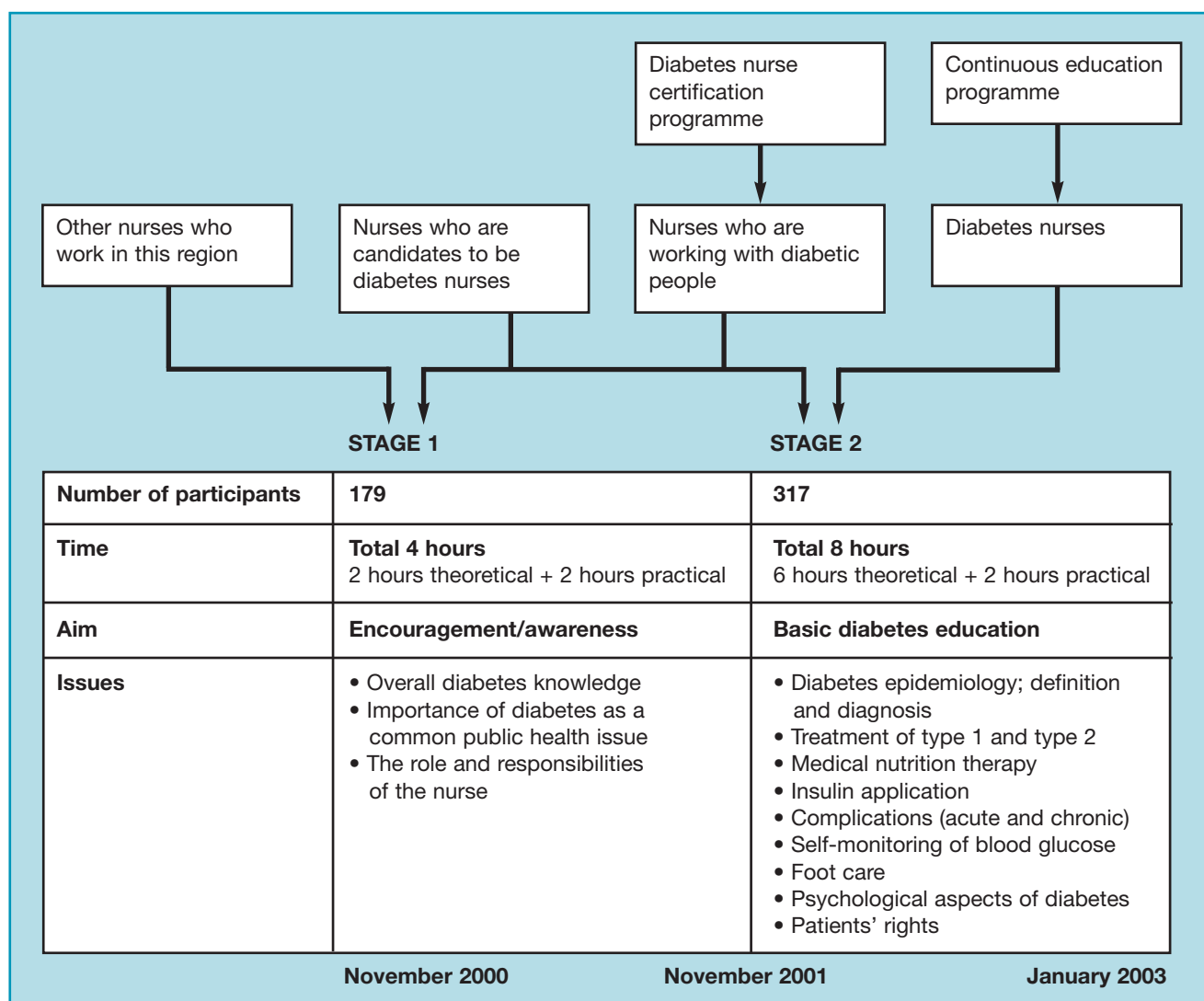


Figure 2. Process of diabetes education for nurses in the GAPDIAB project



The educational targets for each group of nurses in the GAPDIAB project are shown in Figure 2. In the second stage, 13 educational courses were given for 496 nurses. The diabetes nurse education programmes prepared by the ANA, AADE, IDF and FEND were taken as a guide when formulating the programmes.²⁴⁻³⁷ The purpose was to educate nurses who would provide diabetes care relevant to the territory conditions and meet the community's needs in relation to diabetes.²⁵⁻³¹ Adult educational principles were used in the educational programmes.¹⁴

First Stage. Between November 2000 and November 2001, 179 nurses participated in the first stage courses. The courses lasted for four hours in general (two hours of theory and two hours of practical sessions). Candidate diabetes nurses and nurses who were not working with diabetic people participated in this stage of the programme. The goals of the first stage education were to encourage nurses for diabetes care, and to make them aware of and understand the needs related to diabetes. Basic knowledge about diabetes, the importance of diabetes as a public health issue and the roles and responsibilities of nurses in diabetes care were covered in the courses.

Second Stage. This took place between November 2001 and January 2003. In all, 317 nurses participated (eight hours of education: six hours being theoretical and two hours practical). Diabetes nurses, nurses providing care for people with diabetes, and a small number of candidate diabetes nurses participated. These meetings supplied basic knowledge and practices about diabetes focusing on the primary care needs of patients with diabetes. The subject titles covered in the second stage are shown in Figure 2.

Third Stage. Eight nurses who had participated in the second stage, and who had worked with diabetic people previously, were tasked as key persons in diabetes care. These eight nurses participated in the 'Diabetes Nurses Certificate Program' organised by the DNA and Nursing Schools of universities. The programme comprises 40 hours of theory and 120 hours of clinical practice. Certified by the DNA, these certificate programmes were designed with regard to the needs and current resources of Turkish patients with diabetes. The key points of the programme were presented to the nurses in the Diabetes Congress³⁷ and the Diabetes Nursing Symposium.³⁸

In addition, the announcement of the 'Diabetes Nursing Certificate Program' at national and international meetings – in the context of the GAPDIAB project and emphasising the importance of diabetes nursing – strengthened the significance of progressive diabetes nurse education and particularly the certificate programme. We had applications for the certificate programme not only from Turkey, but also from states such as Germany, The Netherlands and Cyprus where the Turkish population is dense. Three diabetes nurses from Germany and five nurses from Cyprus have now completed the certificate programme.

Other activities in the GAPDIAB project

Meetings for physicians and dietitians

In total, 15 educational meetings for physicians were organised, and 1776 physicians participated. In addition, 67 dietitians participated in eight meetings.

Insulin support units

Diabetes is a costly illness.^{39,40} Providing sufficient diabetes care is

closely related to preventing the life-threatening complications of diabetes.⁴¹ In Southeast Anatolia there were many patients with diabetes with a low socio-economic level and without health insurance.

One of the main goals of the project was to help children with diabetes who could not get insulin. According to the reports presented in the first project meeting, most of the diabetic patients' income did not meet their expenses and most patients did not have health insurance.

The case of an eight-year-old boy who spoke at the first meeting was interesting: because his parents were unemployed, he had been buying insulin from the pharmacy in installments, and used it economically in two-day periods so that he would not consume it in a short time. This was a striking example of the absolute need for meeting insulin deficiency in the region. For the first time in Turkey,⁶ insulin support units were founded, one in each main city. Insulin support was planned for children and young people under the age of 20 who do not have health insurance.

These units still continue to give service with donations from the pharmaceutical industry and with the co-operation and support of the Turkish Pharmacist Association. Also as a result of GAPDIAB, 'Insulin for Life', which is an international foundation, has been sending free insulin to the insulin banks of this region since 2004.

Diabetes camps

Summer camp is an alternative setting to improve diabetes self-management education.⁴² Four summer camps were arranged for children and adolescents with type 1 diabetes within the GAPDIAB project. Diabetes nurses actively participated in the organisation and running of these camps.



Other activities

The society of 'Living with Diabetes' opened five branches. Several social organisations for the benefit of people with diabetes were organised in these branches. Children with diabetes from the region staged a self-written play.

Publications

Written material has been prepared for HCPs and for the general public. DNA members also wrote chapters for the book 'Modern Treatment Methods of Diabetes Mellitus'.^{43,44} The 'Diabetes Nursing Book'⁴⁵ was written by a committee appointed by the DNA. All publications were distributed free of charge during the meetings.

Results

The project activities, stages of development and results were assessed periodically by the Regional Coordination Committee and the results were reported in GAPDIAB bulletins. These reports could be summarised as follows.

- In 2000, there were five diabetes centres in the region with limited materials. Today, that number has increased to 28 and better educated teams provide the care. Patient capacity of the diabetes centres was 30 000 in 2000, while this number rose to 182 000 at the time when the project execution was transferred to regional project co-ordinators. The appointment of multidisciplinary team members to diabetes units and their observation of patients contributed greatly to this advance.
- When the project started there were no nurses specialised in diabetes in the region. Today, in six cities, there are 11 nurses who play a key role in the education and care of diabetic people in co-ordination with the DNA, and 24 nurses who work in liaison with them. The developments growing with the project increased the opportunities for

nurses. The diabetes nursing job description was drawn up at national level. Nowadays, the Regulation for Diabetes Centres is being completed in the MoH of Turkey.

- At the end of the project's second year, as the number of registered patients rose so did the number of patients regularly coming for check-ups. Before the project, the proportion of patients regularly coming for check-ups was 5–10%, and that figure rose to 35–60% (diabetes centres data). The awareness of individuals with diabetes and their trust in team members were instrumental in this development.
- In all, 216 children from the region started to get their insulin from the insulin support units. The proportion of diabetic people administering insulin increased from 24% to 34–64%.
- In January 2003, responsibilities of the project were transferred to the Regional Coordination Council. The experience gained in the project paved the way for two diabetes projects in Eastern Anatolia (Eastern Anatolia Project DOGU-DIAB 2003) and Cilicia (Cukurova Project CUKUROVADIAB 2002).

Conclusion

GAPDIAB helped the development of diabetes care and raised awareness about the role played by nurses in the region. On the other hand, the project showed that: (1) more nurses should participate in advanced diabetes nurses' courses and other related activities, e.g. congresses and symposia; (2) educated and experienced diabetes nurses should be given more institutional support and should not be given duties outside the diabetes care units; and (3) there must be more educational materials both for nurses and for patients. The opportunities and positive developments in the field of diabetes care due to the GAPDIAB project were

reported with the results of a general evaluation. Renders *et al.*⁴⁶ looked at 41 research studies which have similarities to our study, and identified those which have heterogeneous characteristics in terms of the reported results. They found that 12 of the studies targeted HCPs, nine targeted care organisations and 20 targeted both. The results concerning patients are reported to be insufficient in all studies.⁴⁶ In our study, while the results targeted HCPs and an improvement in organisation was observed in a short time, the results relating to the patients were planned to be evaluated over a long period of time. The DNA now intends to focus on planning and applying new research to evaluate changes in the quality of diabetes care as a result of nursing.

Limitations

The whole project is a voluntary study executed with the collaboration of community organisations and universities. The project team consisted of the volunteer HCPs who worked not only in their official work time, but also in their free time without any extra payment. Funding for the project was met only by pharmaceutical companies.

At the beginning of the project, the infrastructure facilities of the region were insufficient for gathering the necessary data. However, the registration system has been developing gradually and its additional and explanatory statistical results are to be announced at a later date.

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Medical, Hoechst Marion Roussel, Knoll Germany, MediSense, Roche Diagnostics, Roche.

This project and parts of it have been presented at national diabetes congresses from 2000–2003 and have been published in GAPDIAB bulletins. The project has also been presented at FEND conferences in 2003 and 2004.

GAPDIAB project team members

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Eurowatch



The prerequisite for healthy economies is healthy people. Just as we in Europe would do well to remember this as we endeavour to improve our economic well-being, so policies regarding our relations with, and development assistance to, countries in poorer regions of the

Delivering diabetes care in developing countries

John Bowis, MEP

world should put health at the top of the poverty alleviation agenda.

As HIV/AIDS, TB and malaria continue to spread and kill millions, it is right that the international community is mobilising financial and human resources to help – to prevent and to deliver drugs and vaccines. However, the challenge is much broader than the fight against these three diseases, devastating as they are alone. There is a raft of other diseases, mainly parasitic

which have been neglected, especially in terms of the research and development of new diagnostics and treatments.

Then there are non-communicable diseases, also neglected in developing countries. These include diabetes as well as mental illnesses. Taken together, the burden of disease is having a crippling effect, not just through the terrible mortality rates but also through the chronic illness and disability they cause.