International Journal of Pharmaceutical Research and Applications

ISSN: Applied
Volume 1, Issue 1 (Oct 2016), PP. 30-32

Towards a bright future for an excellent medical care of patients with diabetes in Sudan

Awad Mohamed Ahmed[1], Walid G. Babikr[2], Hatem Mohamed[3]

[1] *Professor of internal medicine, Najran University, College of Medicine, Najran, P.O. Box 1988, KSA*
[2] *Assistant professor of internal medicine, Najran University, College of Medicine, Najran, P.O. Box 1988, KSA*
[3]*Lecturer, Najran University, College of Medicine, Najran, P.O. Box 1988, KSA*

What is Diabetes Mellitus disease?Diabetes mellitus is a chronic disease (i.e. accompanies the patient for life) caused by the lack or shortage of secretion or the lack of effectiveness of insulin hormone produced by specialized cells in the pancreas. The basic function of insulin is to enable the body to make use of sugar as a fuel necessary for different activities and metabolic processes, so in the case of lack of insulin the body does notbenefit optimally from sugar leading to the accumulation of large quantities in the blood. The accumulation of sugar leads instantly to symptoms such as increasedurination, thirst and the feeling of tiredness, while in the long term it leads to diabetes complications such as chronic arteriosclerosis, renal failure, blindness, heart disease and limb amputation.

Diabetes is divided into two main types. The first type(called type1 or insulin dependent diabetes mellitus), caused by the complete absence of insulin because of total destruction of the insulin producing beta cells of the pancreas, often due to being attacked by immune cells, thus patients depend on insulin injection in a sustained manner for life. This type of diabetes accounts for about 10% of the total cases of diabetes and often appears in childhood and adolescence. The second type (called type2 or non-insulin dependent) is due topartial shortage or lack of effectiveness of insulin and can be controlled by life style modification, oral hypoglycaemic agents or both and later on, insulin may be needed. This type accounts for the vast majority of the cases (90%) and it is the subject of most of this article.

Until now, no curative treatment for diabetes is available, and all treatments available now are meant to alleviate the symptoms and to prevent or delay the appearance of complications and thereby improve the quality of life of the patient and to minimise their suffers physically, psychologically, professionally and socially. Genetic engineering techniques may provide cure, but not at the present time.

Diabetes in our country: Diabetes in the Sudan has an immemorial history. The Historians of medicine had proved the existence of writings of **hieroglyphic**language (the language of the ancient Egyptians) referring to the possibility of its presence in Pharaonic Egypt. It is known that the State of the pharaohs extended until the borders of (Kareema) city in the northern Sudan. In the African continent, until the 1970s of the last century, diabetes was considered a rare disease, that might have been due to a true rarity of existence but could possibily be due to the lack of diagnostic services.

At the present time in the Sudan and in other developing countries,the rate of the spread of non-communicable diseases, including diabetes and hypertension is rapidly escalating and warns of what resembles the epidemic in the foreseeable future, while the spread of infectious diseases such as bilharzia, leishmaniasis and leprosy is decreasing. The World Health Organization statistics expect that by the year 2025 the number of people who will suffer from diabetes will reach about 300 million compared to175 million patients currently, and most of this increase will be in the developing countries, while in the developed countries it will continue to remain in a relative stability.

Diabetes mellitus, currently represents one of the most challenging health problems in the region. However extensive survey studies of sound statistical methods did not take place until now to provide an accurate knowledge of the growth rate of the disease and its annual incidence, however arbitrary estimates from some sources point to that there are about 2,000000 persons suffer from diabetes in the Sudan. Some estimate it at the rate of one patient in every Sudanese family. Some hospital studies, have concluded that the diabetes cases constitute about 10% and the same studies suggest that diabetes and its complications account for about 10% of the total hospitals' deaths.

The causes of the spread of diabetes in our country: One of the most important reasons for the spread of the disease in our country is the dominance of the pattern of urban life or urban changes as a result of the economic and social development during the last three decades. The abundance of cars (both public and private) and their use even for the least distances downplayed the physical effort which increased the tendency to the development

of obesity which is strongly linked to the emergence of diabetes. The spread of Education has helped in the transition to the business and the clerical professions which impose limited physical efforts. The outbreak of the television broadcasts and their availability throughout the day and the use of the desktop PCs and laptops led people to sit many hours motionless, only holding the remote or the mouse while enjoying sugary drinks and snacks. Another factor which made things worse is the spread of smart mobiles and the addiction to the sites of social media for long hours without motion, besides the disinterest in practicing sports (only watching football on a seat in front of the TV or in the stadiums). The lack of arenas or playgrounds as a result of the fierceness of thepublic yards in the districts by greedy people or by being seized by the government for building schools and other public services, also played a role. Most of our streets are dark and dusty as if they are designed only for the passage of cars and do not encourage the practice of hiking since they lack safe infantry divisions. And other factor is the community hostility towards women practising any kind of sport. Significant negative changes have taken place in our food, like the disposal of traditional food which was rich in fibres, vegetables and fresh fruit, for the benefit of the pattern of modern diets with plenty of food consumption rich in calories such as white sugar, wheat breads, soft drinks of different sizes, burgersandwiches and other fat-rich food. The combination of the first factor (lack of movement) with the second one (increase consumption of calories) has led to the spread of obesity and diabetes. This was exacerbated by the increasing migration from rural areas to the cities as a result of drought and desertification and the limited employment opportunities and wars in the margins and the parties. As soon as migrants adopt the pattern of urban life, they stop practicing arduous manual works and are directed towards works of marginal efforts and poor financial gains. The expatriation trend to the gulfsince the mid-1970s, which included millions of Sudanese, who transferred the prevailing food pattern (which caused one of the highest rates of obesity and diabetesin the world there) from the gulf area to Sudan

How to care for diabetes patients: Unlike many chronic diseases, diabetes is addressed based on the concept of comprehensive care which went far beyond just addressing the oral hypoglycaemic tablets or insulin injections. Diabetics need to change the pattern of their lives so that they should exercise regularly and they need to change the pattern of nutrition. They also need a knowledge about their disease that is adequate to familiarize themselves with the nature of the illness and complications and correcting wrong concepts prevailing amid them. Patients need to do periodic checks to the eyes, heart, kidneys and cholesterol to prevent complications and to detect them earlier if they occur. These are some of the functions of the comprehensive care for diabetes patients, we also need a management team other than doctors like nutrition experts, health educators and laboratory technicians. It is difficult to carry out such care in hospitals and clinics amid the jam of other patients, because the diabetes management needs a multi-disciplinary medical team. Furthermore the patients need a particular kind of rapport with their doctors therefore, the auspices of diabetes patients should be in specialized centres. In the Sudan now, not only a few of these centres are available, but they are also poor and mostly found in the capital and in the centre of the city. In addition to that some of these centres are owned by the private sector with their high cost possibilities not afforded by poor patients. There is an important role for diabetes associations in the care of patients. These associations include health workers and the patients themselves and concerned about the auspices of the patients and addressing their problems at the level of the country or the city from the economic and social aspects, as well as therapeutic and scientific aspects and to inform and educate the patients by promoting the dissemination of scientific research related to the disease. The first association in the world for diabetes was established in Portugal in 1926, the basic mission of which was to provide the recently discovered insulin at that time for the poor patients, hence it was sold in high prices. Howeverthemost famous and effective diabetes society in the world was established in 1934 in Britain and was founded by Dr. Lawrence who was an eminent physician, and the famous novelist, H G Wales who suffered from diabetes. In the Sudan there is a diabetes association but its presence is not tangible neither by the patients or the interested health care workers.

Barriers of care for diabetes patients in Sudan: Perhaps one of the most important obstacles to an optimal care for diabetes patients is the difficulty of access to insulin for those who need itconstantly. Those poor patients often stop treatment or reduce dose or return to the use of cheaper oral hypoglycaemic agents which are not appropriate for their condition. There are also problems in storing insulin as a result of the absence of refrigerators or the frequent electricity outage, therefore patients are obliged either to keep it in the room temperature which may exceed 40 degrees in the summer months or resort to means of storage of questionable utility. Perhaps diabetes is one of the most costly diseases (direct and indirect costs). In the United States, the costs of treatment of one patient may reach up to 12 thousand dollars annually. The total direct costs are 44 billion dollars and total direct costs and indirect costs are about 100 billion dollars annually, thus converging the costs of treatment of all kinds of cancer One of the most important obstacles currently encountering diabetes care are the scarcity of medical cadres specialized in diabetes. The number of specialised doctors in diabetes and Endocrinology in the country is very little. Besides there are no specialized technicians in areas such as medical

education and care of diabetic foot. There is a reasonable number of nutritionists but unfortunately they work in certain sections in hospitals, not including the auspices of diabetes patients. The proportion of high illiteracy and the absence of effective programs for health education lead to the spread of wrong ideas and misconceptions about diabetes (especially that this disease is essentially a disease of western community, planted in the wrong environment). Besides there is a complete absence of the role of our physicians in the improvement of cultural aspects of the remedial programs. For example, some patients are mixing between the concept of fatalism and the need for caution against diabetes complications, as they believe they are inevitably exposed to them whatever they have done, affected by the wrong vision of this concept of religion.

Diabetes patients in rural areas where there are deficiencies and lack of health services, and where there is no prospect at the present time to enjoy the services of specialized care encounter a real challenge. Compounding the matter is the dispersion of the population in small villages on the wide areas so that the matter requires walking long distances and thus at least interferes with the periodic follow-up. Perhaps we need to carefully evaluate the unique experience applied in Ethiopia a few years ago, (especially that the economic situation and demography are similar in the two countries), this involves circumambulation of mobile diabetes care units to patients in rural areas so that the unit includes an intellectual team of doctor and nurse, and a competent laboratory technician, together with a statistician, counted with the necessary facilities. These units, in addition to seeing patients, they also train medical assistants and nurses in rural units in the field of care for the sick and linking them to the system of the nearest diversionary specialized centre.
We should also consider the suffering of the diabetic women in Sudan. The studies have proved that they are more vulnerable to the disease complications and less copingwith the disease. The inherited family traditions in terms of the distribution of arduous household works and per capita family income are utterly biased against women in favour of men. Thus diseases of women occupy inferior priorities of the interest of the family, unlike the matter when the head of the family is the patient. The doctors have to develop remedial programs taking into account the critical status of the sick women in our community.

The conclusion: Diabetes mellitus at the present time is considered one of the most important health problems in Sudan. As a result of the absence of specialized services our patients suffer from high rates of the acute and chronic disease complications. Unfortunately, there is no enough official and public attention payed to this disease, where resources are still addressed mainly for infectious diseases such as malaria and AIDS (but it should be noted that Ministry of Health of Khartoum State has set up the department of non-communicable diseases and diabetes comes in the forefront.). Indeed there is an urgent need to establish a national program for the care of diabetes patients (or activated if present). Such a program should attract the efforts of multiple representatives such as the Ministry of Health, the faculties of medicine and civil society organizations. The strength of this work is driven by the national coordination of health services and preventive and remedial protocolsappropriate to the needs of the Sudanese patients, and to prevent any conflict that could arise between the treating doctors towards the treatment of patients and the training of the health cadres on the different fields of specialization, to promote research on the disease and campaigns to sensitize the public and decision makers to the importance of the disease as a national problem, in addition to a campaign for a national survey on scientific bases to determine the extent of the spread of the disease and the rate of annual increase (note that this survey is considered the minimum requirement of sound health planning of patient care). The program should seek the participation of the community through the diabetes associations in its planning, management and control. We believe that the start towards effective services for the care of diabetes patients is the training of a generation of a specialized team care (intellectual doctors, nurses, nutritionists and podiatrists). The next step is the establishment of four or five centres for the integrated care of diabetes in the capital and some major cities to serve as model centres to provide care and to train other teams creating similar centres in other cities. In this way we ensure coverage of the capitals of the States within months. We believe that it is not necessary to adopt advanced technological means at the beginning to achieve the objectives of optimal care, but could start working on methods and simple care pending the quality of services at a later stage.
The importance of the preventive aspect should not be forgotten by the proposed national program, hence prevention programs are making increasing successes in many parts of the world. The control of some risk factors for diabetes is possible by means of reducing weight and the promotion of exercise and the adoption of methods of proper nutrition. These concepts of the program should be changed into work agenda addressing the general public by direct means and understandable language. It must be understood that enjoyment of the achievements of modern civilization, such as convenient means of transportation and the computer doesn't necessarily imply accepting the risk of (civilization) illnesses such as diabetes, obesity and others.
Finally, it should be recalled that the generous funding is the basis for any good health service including the auspices of diabetes patients. This is the mission of the government and the private sector. Finally, campaigns should be launched to raise the interest on diabetes as a national threat among the public and among decision makers in order to avoid the dangers of this new entrant to the rest of our endemic diseases.