Diabetes:

Diabetes Health Care

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Introduction

The following is an account of the development of diabetes health care carried out over these last couple of years. The aim of this article is to give the reader a broader view of the sort of set-up of a health care system that is indicated for the management of this disorder (and other similar chronic non-communicable diseases).

As an introduction to the topic, I would like to make a brief reference again to the National Diabetes Programme, the first phase of which, the epidemiological survey, has been reviewed in a previous article, - since the re-organisation and improvement of diabetes health care services were one of the major aims of this project.

The Ministry/Dept. of Health, conscious of, ad concerned about, the medical health problem, both mortality and morbidity wise, diabetes is in our country, decided in 1980 to seriously tackle the subject. W.H.O. was approached, and with the help of friendly countries like Yugoslavia and Belgium, a National Diabetes Programme was set up and launched in 1981. Among its major objectives were:

(a) to develop and implement at national level, the most appropriate services for diabetes prevention, detection & control.
(b) to use this programme as a model for the further development of other major chronic non-communicable diseases prevention and control in the community - a major area of concern worldwide.

Regarding the former, it was decided to start with an epide miological investigation of a representative random sample of the Maltese population to

(a) estimate the prevalence of diabetes, and its complications in the Maltese Islands; and from this information to
(b) rationalize the existing structure of health services.

The epidemiological survey was carried out in 1981, (by local personnel from the D.H. and the diabetes clinic with expert help from Yugoslavia). In itsfirst phase, it involved circa 1,000 households - a 'random' sample statistically representative of the whole population - and yielded figures of 7.7% diabetes and 5.6% I.G.T. - primarily found in subjects over 40 years of age, and often associated with obesity thus confirming that diabetes is indeed a major health problem. Because it was felt that clinically related to this problem, was the problem of obesity and possible unbalanced nutrition, a food consumption and nutritional status survey was planned to be performed as a complimentary study. This is an-on-going study, but preliminaty results showed that marked overweight is rather common, being present in some 60% of the subjects, with clear preponderance on the female side. Excess calory intake seemed rather frequent with 60% of the total as carbohydrates, only 10% as protein and the rest (i.e. 30%) as fats. In the case of carbohydrates, refined forms, like sugar, constituted by far the major proportion whilst-dietary fibre seemed lacking. The proper distribution of the total daily calories was not ideal, and furthermore physical exercise was clearly lacking in many instances.

The following phases of the study, on-going since then and planned to last some 5 years at least, concerned the area of "complications"- the extent of occurrence of these, their rate of progression, and related "risk factors" that could be involved - this last being of particular importance in that some of these, like obesity, unbalanced nutrition, lack of physical exercise, smoking, alcohol, and hyperlipidaemia, could possibly also be implicated in the other "chronic diseases" common here - e.g. cardiovascular (like I.H.D., hypertension and stroke).

During this period of study, personnel (medical & paramedical) from the diabetes clinic had the opportunity to undergo further specific training in diabetes health care abroad.

As regards health services, I am proud to say that much has been achieved - such as to merit the admiration and very favourable comments of the International Monitoring Committee, consisting of respected experts from various countries including the U.K., Belgium, Yugoslavia, Switzerland, Finland,

and W.H.O. representatives.

What was, until a few years ago, basically a three-roomed unit in SLH, dedicated to diabetes out-patients, has now developed into a department, with the creation, in line with recent W.H.O. recommendations, of a diabetes health care system that can now cope much better with the major requirements of diabetics. These include amongst others:

(a) the means of understanding the basic mechanics of the disease and the various forms of treatment.
(b) relevant and locally appropriate nutritional advise and access to the food stuffs recomended.
(c) availability of speciaised services aimed at the prevention and treatment of diabetes and its complications.

The major improvement achieved has been the better incorporation of health care systems, with appropriate additional facilities at all levels of care (as indeed recommended by the W.H.O. Expert Committee of Diabetes - 2nd Report).

The peripheral clinics in Mosta, Pawla, and Floriana are now functioning as primary health care systems, of great use to the diabetics. They are manned by doctors, nurses and other paramedical, trained in diabetes care, working as a team. In addition to their health function - treating the easier-managable cases, thus freeing DC at SLH for the more difficult cases, but still referring to the clinic whenever indicated - they also serve as educational institutions for staff and patients, disseminating educational information and keeping proper records of patients. They also serve as primary prevention contres by offering and performing 'screening' of 'high risk' individuals.

The diabetes out-patient clinic in S.L.H., manned by well trained personnel, is now functioning as a secondary health care centre providing:

(i) skilled educational programmes for patients (individual and in groups), their relatives as well. as other health care personnel-including doctors, nurses, and other para medical staff-from S.L.H., K.G.H., Graig Hosp., peripheral hospitals & clinicals, community services, and medical & nursing students.
(ii) consultative and specialized services to patients and doctors concerning complex aspects of care - including ward rounds in S.L.H. & K.G.H., and regular visits to outlaying hospitals and peripheral clinics by diabetologists and other trained paramedical personnel.
(iii) full expert assessment and stabilization of newly diagnosed cases as well as of poorly controlled cases (including those referred from elsewhere).
(iv) a basis for certain clinical and epidemiological research investigations - on topics like obesity, nutrition, retinopathy & pregnancy (planned) - as well as on the "current survey".

The incorporation herein of 'units' for nutrition, education, eye and foot (planned) has helped with the various aspects of diabetics health care by providing better education, assessment of 'complications' and thus has both preventive and therapeutic benefit.

Some data on the diabetes clinic and the peripheral centres attesting to the increased load of people being cared for (and therefore the increased confidence being constantly put in these services) show that whereas in 1981 the average number of new cases seen at the D.C. S.L.H. was around 1000, this increased to circa 1500 in 1983 (to date Nov.). With regards to follow-up visits, the number of these performed in the diabetes clinic in S.L.H. remained stationary at around 22,000 per year (affording more time to a smaller number of patients), whilst the number of these performed in the peripheral clinics increased substantially from circa 3000 in 1981 to around 11,500 in 1983 (to date - Nov.).

D.C. S.L.H. - average daily load; 7 new cases & 80 follow-ups (60 visits & 20 for drugs prescriptions, blood tests, & for education) - total number of patients regularly attending is circa 4,500, giving and average number of times a patient is seen per year of 6. Peripheral clinics - total number of patients regularly attending is circa 3,800, giving an average number of times a patient is seen per year of 3.

With regards to "defaulters" i.e. those patients who for various reasons stopped attending for these last 2 years or more, the number of these decreased significantly by circa 16%, dropping from circa 6000 in 1982 to around 5000 in 1983.

Regarding therapy, the data available, even though inevitably limited due to various reasons, lead one to formulate the following educated guess on the management modalities of diabetes in Malta. Calculations (and extrapolations) seem to indicate that some 43% of diabetics are being managed on diet only; another 40% on oral hypoglycaemic agents, whilst the remaining 17% are on insulin. These figures compare very favourable with similar ones from recent studies abroad (including Professor R.C. Turner's of Oxford, England and Dr. A.Jadnesic of Hastings,U.K.) where on average one finds only some 16 - 18% of diabetics controlled on diet only; oral hyproglycaemic agents being resorted to in circa 51 - 57% of cases, and the rest (i.e. 25 - 33% of diabetecs) are managed on insulin. In the Malta figures, the sex differences seem interesting, with overall rather poorer show for the females. Whilst from the total number of males - 52% are on diet only, 16% on insulin and 32% on tablets, on the female side on 36% are on diet only, 20% are on insulin and 44% on tablets. From the combined figures referred to initally, again females appeared to be faring poorer - in fact from the 43% of patients on diet only - 21% are males and 22% are females; from the 40% on tablets - 13% are males and 27% are females; whilst the remaining 17% on insulin are composed of 6% males and 11% females.

Special "units", (staffed by trained personnel and equipped with the necessary apparata) have been opened in S.L.H. - within the medical and obstetric departments - for closer supervision on, and improved stabilization of, the metabolic dearrangments of

diabetics. With regards to the ante-natal section, in particular, I am happy to say that the increased effort and time dedicated to the important aspect of gestation and impaired glucose tolerance have given their fruits in that both the maternal and the foetal well being is now much improved with better metabolic supervision and therapy pre- and post-natally, intrapartum and during the first days of foetal life. This important area is now planned to be further assessed by means of an in-depth study of the problem of diabetes in pregnancy, the results of which could be of great potential benefit both to mother and baby, as well as the community; in the present and in the future - a life-long committment. These units, including the "metabolic ward in M3" are now serving as tertiary levels of care (albeit somewhat restricted in scope).

All these marked improvements together with the introduction of equipment (blood glucose, reflectance meters) in 'sensitive' areas of the Govt. Hospitals, and improved laboratory 'back-up' (where a wider range of investigations, some rather sophisticated, are now available) have led to an overall improvement in the level of diabetes health care with the offering of better services to the patient and the community.

Improved services have also been attained in the out-laying hospitals where regular supervision and consultations by experienced diabetologists (and other paramedical staff) are constantly made, and where standardization of management (both monitoring & therapy) has been achieved. The same applies also for Craig Hosp. in Gozo.

Education, the foundation of good therapy and of preventive medicine, has been given its due importance, and emphasis on this has and indeed still is, very much, been given to the various interlinked 'target groups' viz., the patient, family, high-risk individuals, health-care personnel, and the community, especially the high-risk individuals. The major aims include the motivation of the patient towards better and more comprehensive "self-care", prevention of socio-economic problems and alerting the community to the possibility of prevention. Education to the public is being actively given via the various forms of mass media (T.V., radio, news papers, etc.) covering both the adult and young population sectors with appropriate programmes on diabetes, related disorders, and nutrition. Furthermore, as already mentioned, education on the many aspects of diabetes management is constantly being given to patients (and their relatives) both on an individual basis and in groups, at the diabetes clinic and peripheral centres, in hospital wards, as well as in their residences (by the community nurses). Oral and written material is given to the patients to help educate them on important topics like self-injection (technique & insulin mixing), home-monitoring, diet-sheets...etc. Specialists from the Diabetes Clinics in conjunction with the University of Malta are also closely involved with the training of medical students and nurses both pre-and post-qualification.

It is thus aimed that diabetics (and their relatives), as well as other "target groups" undergo a process of continuous education through their contacts with the various members of the "diabetes team" during their regular visits to the clinics.

Finally work is constantly being done to improve the amount and quality of data collected, the forms of documentation needed and their computerization both for improved health care delivery and for research and evaluation purposes, keeping in mind "cost-benefit analysis".

The experience being regularly accumulated, from all this wide programme is proving invaluable for the planning and integration of this disorder within the wider 'chronic non-communicable disease programme.

Conclusion

Assessing and evaluating the objective of therapy, and the needs of the patient, the promoting of investment in education and counselling and sensible monitoring programmes should help reduce the burden of morbidity and insecurity and also prove financially sensible for society. One should constantly strive towards further planning and investments for the future, keeping in mind the need of regular and detailed cost-benefit analysisof the results. The main objective of such an on-going programme of development and consolidation of health care service should avoid unnecessary delay in further implementing educational and therapeutic measures which delay could lead to an increased burden of complications requiring expensive treatments. Considering related costs of objectives, it is estimated that of the total costs spent on this disorder circa 43% could be 'direct' costs related to the treatment of the illness and its complications - two thirds of this being for hospital admissions, mostly complications in over 65 years olds - whilst 57% would be 'indirect' cost related to lost earning, lost production, pensions and other social assistances, and premature death.