RISK FACTORS ASSOCIATED HEALTH PROBLEMS, REASONS FOR ADMISSION AND KNOWLEDGE PROFILE OF DIABETES PATIENTS ADMITTED IN BPKIHS.

RS Mehta*, P Karki**, SK Sharma***

ABSTRACT

Diabetes Mellitus (DM) is a major noncommunicable disease affecting approximately 150 million people in the world in 2002, 180 million in 2003 and expected to reach 330 million in 2025. The prevalence of DM is steadily increasing world wide, particularly in developing countries. It is projected to increase by 170%, out of which 76% will be from developing countries. About 310 patients were admitted in medical units of BPKIHS between 1-3-2003 to 29-2-2004 with DM (1).

The objective of the study was to find out the demographic profile, identify the known risk factors, assess the associated health problems, find out the reasons for admission and explore the knowledge profile of the patients admitted with diabetes. It was hospital based exploratory study conducted among the admitted DM patients during the period of 1-3-2003 to 29-2-2004 in medical units using simple random sampling, and included 35 samples.

About 54% subjects were of age group between 40-60 years, Hindu 85.7%, married 92.9%, and non-vegetarian 75.9%. 50% of subjects were on insulin. 60.7% subject had hypertension, 39.3% had ocular problem, and 25% had renal problems. Majority of the subjects (82.1%) had knowledge about the disease, they were suffering from, but only a few subjects had the knowledge about, causes, curability, treatment modalities, diet, and other aspects.

As the knowledge regarding various aspects of DM is very low, there is need for information booklet in Nepali and health education programme amongst the public will be very beneficial.

KEY WORDS: Risk factors; Associated health problems; Knowledge profile; Diabetes.

INTRODUCTION

Diabetes Mellitus (DM) is a chronic disease caused by inherited and/or acquired deficiency in production

of insulin by the pancreas, or by the ineffectiveness of the insulin action. It is a syndrome caused by an imbalance between insulin supply and demand, characterized by hyperglycemia and associated with abnormal carbohydrate, fat and protein metabolism. Insulin deficiency results in increased concentrations of glucose in the blood, which damages in turn many of the body's systems, in particular the blood vessels and nerves (2).

As the number of people with diabetes grows worldwide, the disease takes an ever-increasing proportion of national health care budget. Without primary prevention, the diabetes epidemic will continue to grow. Even worse, diabetes is projected to become one of the world's main disablers and killers within the next twentyfive years. Immediate action is needed to stem the tide of diabetes and to introduce cost effective treatment strategies to reverse this trend (3).

DM is a chronic disease that affects approximately 14 million people and among those 14 million, 7 million were un-diagnosed. Among older people (>65 years), 8.6% had type-2 DM. Type-1 DM approximately account for 10% and type-2 85-90% of all known cases of DM in United States (3).

There is rising prevalence of the disease in the developing countries, which was rare before and is probably due to industrialization, socio-economic development, urbanization and changing life style (3). The prevalence of diabetes increases with age. The prevalence (3) of type-2 DM in females was relatively lower (5.57%) than in males (6.73%).

The high incidence (new cases) of type-2 DM in Nepal was found due to lack of public awareness regarding the problems and poor medical service in country (1). From 28th Oct.1997, to 27th Oct. 1998, in Medical OPD of B.P. Koirala Institute of Health Sciences, 1840 patients (1040 M and 800 F) were diagnosed to have DM (1). Hence, the investigators tried to explore the various facts or problems of the admitted patients suffering with DM.

* Asst. Professor, College of Nursing, **Head of Department, Department of Medicine & Hospital Director, *** Department of Medicine, B.P Kiorala Institute of Health Sciences, Nepal

MATERIALS AND METHODS

The objectives of the study were to find out the demographic profile of the subject, identify the known risk factors, assess the associated health problems, find out the reasons for admission and explore the knowledge profile of the patients admitted with diabetes. It was hospital based exploratory study conducted among the admitted DM patients in medical-units of BPKIHS during the period of 1-3-2003 to 29-2-2004. Using simple random sampling method 35 subjects were selected out of 310 total DM admitted patients. Pre-tested interview schedule in Nepali language was used to collect the information from the subject by the investigator him self and the trained nurses working the same unit. Verbal consent was obtained before conducting the study. Anonymity of the subject was maintained to protect their privacy. The collected data was analyzed using Excel and SPSS-4 programme.

RESULTS

Socio-Demographic Profile of the Subjects: Majority of the subjects i.e. 68%, were of age group 40-70 years, females 60%, and Hindu 85.7%. About 48.3% subjects were illiterate and 44.8% housewives. 37.9% subjects belonged to Sunsari and 31.2% were Morang. 51.8% of the subjects were from Nagarpalika (Town), 92.9% were married and 75.9% were nonvegetarian. 50% subjects were hospitalized for less than 5 times. 25% of the subjects were suffering with diabetes for 6-10 years and similar percentage for 11-15 years. Majority of the subjects (71.4%) had type-2 DM and 75% were on insulin therapy.

Risk Factors: Majority of the subjects (60.7%) were in the age group 50-70 years. Only 14.3% subjects were below the poverty line, about 29% subjects had history of having diabetes among their brother and sisters and 21% amongst their parents. About 26% mothers having diabetes delivered a child of more than 3.5 kg. weight. Among the subjects 46.4% had sedentary life style, and 25% subjects had history of stress in their life.

Treatment History: About 44% subjects were receiving OHA (oral hypoglycemic agent) alone, 75% were on insulin therapy, and 85% were on a diabetes diet.

Associated Health Problems: About 60.7% of the subjects had hypertension, 25% had renal problems, 25% had neurological problems, 39% had ocular problems, 21.4% had diabetes foot.

Reasons for Admission: About 10.7% subjects were admitted for regular checkup, 28.6% for adjusting the dose of insulin, and 35.7% for investigations and treatment of complications.

Knowledge Profile of the Subjects: Most of the subjects (82.1%) were familiar about the disease they were suffering, 25% were aware of causes of diabetes, 42.9% had knowledge about the treatment of diabetes and 46.4% were aware of the preventive measures.

DISCUSSION

About 89% of the subjects were more than 40 years, as type –2 DM is common after the age of 40, which is similar to international trends. Most of the subjects (85.7%) were Hindu by religion, as Nepal is a country where the majority of the population belongs to Hindu religion. About 34.5% subjects were Mongolian, followed by Brahmin and Chhetri (31%), as the hospital is situated in the town Dhahran, where the dominant populations are Mongolian.

Majority of subject (75 %) were non – vegetarian, as the dominant population (Mongolian) are nonvegetarian. Only 14.3 % subjects were from very low socio-economic group. It shows that in general diabetes is an illness, which usually effect middle and higher economic population rather than the lower socioeconomic group, but it is clear that it is not only a disease of the affluent. Due to poverty and ignorance, poor people are often unable to come hospital for treatment.

Fifty percent of the subjects were hospitalized for more than 5 times, and the mean hospitalized frequency was 6.67 times. As the disease progress the complications also increase and needs frequent admission for investigation of complications and manage problems. Most of the subjects (64.3 %) were suffering with diabetes for more than 5 years. The mean duration of having disease is 9.19 years. Since the diabetic cannot be cured, majority of the patients are suffering from illness for a long duration. As age progresses, disease also progresses, and if not managed properly and frequency of admission will increase. Most of the subjects (71.4 %) had type-2 DM; and 28.6 % had type-1 DM. Similar findings were reported by Smelter (3). Majority of patients (75%) were on insulin therapy; of which only 25% administered insulin themselves, and indicates lack of proper training during hospitalization. This emphasizes the need for training of self-administration of insulin in the hospital to help the patients to be independent.

About 28.6% subject had history of DM in their brother or sister; 21.4% in their parents, which indicates genetic association of the disease. Similar findings were reported by Nova (4). 60.7% subject had hypertension, 14.3% had cardiac problems, 25% had renal problems, 25% had neurological problems, 39.3% had ocular (vision) problem, 35.7% had recurrent infections, 17.9% had cataract and 28.6% developed hypoglycemia as associated health problems. Similar findings were reported by Kapur (5). These findings suggest that there is lack of proper control on diabetes and patients were not following proper instructions.

The reasons for admission of the subject were: to control blood glucose level and adjust insulin (28.6%), to treat hypoglycemia (32.1%) and to investigate complications (35.7%). Similar findings were reported by Smith (6) and Campbell (7). These findings suggest the poor management of diabetes at home and most patients needed proper guidance, counseling and health education regarding the management and care of diabetes.

Majority of the subject (82.1%) were familiar about the disease they were suffering with and 25% were aware the reasons of being a diabetic, 42.9% understood the treatment of diabetes, 42.9% aware of diabetic diet, 32.1% were aware of symptoms of hypoglycemia and 42.9% were familiar with complications of diabetes. Similar findings were reported by Funnel (8), Bruni (9) and Soundarya (10). These findings clearly show the poor knowledge among the patients regarding management of disease and their complications.

Diabetes is a major non-communicable public health problem increasing rapidly in developing countries, including Nepal. Without primary prevention, the diabetes epidemic will continue to grow, even worse. Diabetes is projected to become one of the world's main disablers and killer within the next 25 years. As the disease cannot be cured, it can only be controlled; hence there is need for selfmotivation and knowledge to manage the disease. As the knowledge regarding various aspects of DM is very low, there is a need to prepare an informational booklet on diabetes in Nepali and also initiate a health education program among the public.

REFERENCES

- Karki P, Barel N, Lamsel M, Rijals, Koner BC, Dhungel S, Koirala S. Prevalence of NIDDM in urban areas of Eastern Nepal: A hospital based study. South East Asia J Trop. Med. Public health .2000; 31 (1): 163-6.
- Raman PG, Maitra S. A comparative study of oral glucose tolerance test and glycated hemoglobin in highrisk patients for diabetes mellitus. Inter. J. Diab. Developing. Countries 2000; (1) 23-8.
- Smelter SC, Bare BG. Text book of Medical Surgical Nursing. Lippincott. 8th edition 1996.
- Novo Nordisk Education Foundation Consensus Guidelines – Minimum basic care for persons with diabetes mellitus. Inter. J. Diab. Developing. Countries 2000; 20 (1): 1-7.
- Kapur A, Jorgensen LN. Diabcare Asia studycomparative status of current diabetes care in Asia. Novo Nordisk Diabetes Update. 2001; 3-13.
- Smith DM, Norton JA, Weinberger M, et al. Increasing prescribed office visits: A controlled trail in patients with diabetes mellitus. Med Care. 1986, 24(3): 189-99.
- 7. Campbell IW. Management of type-2 diabetes mellitus with special reference to metformin therapy. Diabetes and Metabolism (Paris); 1991, 17; 191-6.
- Funnel MM, Donnelly MB, Anclerson RM, Johnson PD, Ohm S. Perceived effectiveness, cost, and availability of patient education methods and materials. Diabetes Educ. 1992; 18(2): 139-45.
- 9. Bruni B, Barbero PL, Carlini M et al. Principles, means and evaluation of a programme for diabetes education. Ann. Osp. Maria. Vittoria Torino. 1981;24(1-6): 43-74.
- 10. Svoren BM, Butter D, Levine BS et al. Reducing acute adverse outcomes in youths with type-I diabetes: a randomized controlled trial. Evidence. Based Nursing 2004, 7(2):42.
- Berg AO. Screening for type -2 diabetes mellitus in adults: Recommendations and rationale. American Journal of Nursing ;104(3): 83-9.
- 12. Soundarya M, Asha A, Mohan V. Role of a diabetes educator in the management of diabetes. Inter. J. Diab. Developing. Countries. 2004, 4: 65-74.