INCIDENCE OF *DIABETES MELLITUS* AT THE FEDERAL MEDICAL CENTRE KATSINA, KATSINA STATE, NIGERIA: A RETROSPECTIVE STUDY

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ABSTRACT
A six-year (2002 – 2007) retrospective study of hospital records (in-patients) was carried out to investigate the incidence of Diabetes Mellitus in Katsina. The records showed that a total of 754 cases were attended within the study period. The study showed yearly increase in the incidence of the disease with the highest incidence of 288 (38.20%) in the year 2007 and the least 65 (8.62%) in the year 2002. More males suffered from the disease 456 (60.48%) than females 298 (39.52%). The incidence was also found to be high 289 (38.33%) in the age range 65 and above, while age range 25 – 34 was least affected 28 (3.71%). Ways on how to live free of Diabetes Mellitus were also recommended.
Keywords: Age Range, Diabetes Mellitus, Incidence, Hospital

INTRODUCTION
Diabetes Mellitus is a condition in which there is excess amount of sugar in the blood because it is not adequately transported into body organs by a hormone called insulin (NDCPN, 2007). The prevalence of *Diabetes Mellitus* and other communicable diseases is on the rise in African communities due to ageing of the population and drastic lifestyle changes accompanying urbanization and westernization (Gwatkin *et al.,* 1999). The World Health Organisation (WHO, 1999) stated that a 12.2% rise in the number of adults with *Diabetes Mellitus* is projected by 2005, to reach 300 million adults worldwide. It is further estimated that this figure would double in the next 25 years (NDCPN, 2007).

The literature relating to the prevalence of *Diabetes* in Nigeria is scarce (Nwafor and Owhoji, 2001). So far *Diabetes* is a well known major public health problem worldwide, there is therefore the growing tendency that every effort should be directed towards actively looking for the prevalence of *Diabetes Mellitus* in the Nigerian population. Mbanya *et al.* (1996) also reported the emergence of *Diabetes Mellitus* as a major health problem in Africa including Nigeria.

Researches on the incidence of *Diabetes Mellitus* in some hospitals of Nigeria showed that *Diabetes* is considerable cause of morbidity and mortality in Port-Harcourt (Dagogo Jack, 1990, Wokoma, 1999). In Nigeria, results of the National Survey conducted in 1990 showed that 2.21% of the adult population is diabetic with over one million adults suffering from the condition (NDCPN, 2007).

Ebenezer *et al.* (2003) studied the prevalence of type 2 diabetes in adult Nigerians and found its rates as 7.7% and 5.7% for males and females respectively. In the University of Port-Harcourt Teaching Hospital (UPTH) *Diabetes Mellitus* accounted for approximately 14% of all cases seen in the medical clinics in 1994, and over 18% of all the medical out-patient consultations in the same year (UPTH, 1994).

A prevalence of 1.6% *Diabetes Mellitus* in sub-urban Northern Nigeria was reported by Bakari *et al.* (1999). Prevalence of *Diabetes Mellitus* among Nigerians in Port-Harcourt correlates with socio-economic status was studied by Nwafor and Owhoji (2001). They found that, the prevalence was as high as 23.4% among the high socio-economic group and 16% among the low socio-economic group.

Although cases of *Diabetes Mellitus* have been on the increase, no studies of its incidence in Federal Medical Centre, Katsina have been published. This study, therefore, for the first time was aimed at finding the incidence of *Diabetes Mellitus* among patients attending the Federal Medical Centre, Katsina from 2002 – 2007.

MATERIALS AND METHODS
The relevant hospital records of medical cases of *Diabetes Mellitus* seen systematically in Federal Medical Centre, Katsina from 2002 – 2007 were retrieved with the aim of investigating the incidence of the disease in Katsina. A total of 754 cases were analysed by statistical testing.

RESULTS
A total of 754 cases of *Diabetes Mellitus* were studied in this work. The incidence of occurrence of the disease was recorded to be as high as 288 cases (38.20%) in the year 2007, followed by 141 cases (18.70%) in the year 2006, 102 cases (13.53%) in the year 2005, 86 cases (11.41%) in 2004 and then 72 cases (9.55%) in the year 2003. The least occurrence was recorded in the year 2002 with 65 cases (8.62%) (Table 1). More males 456 (60.48%) suffered from the disease than females 298 (39.52%) (Table 2). People of age range 65 – 74 were the most affected, 289 (38.33%), followed by 55 – 64, 192 (25.46%), 45 – 54, 165 (21.88%) and 35 – 44 80 (10.61%), while age range 25 – 34 were least affected, 28 (3.71%) (Table 3).

Table 1: Frequency of occurrence of *Diabetes Mellitus* disease in six years (2002 – 2007) among patients attending Federal Medical Centre, Katsina.

Month	Jan.		Feb.		March		April		May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		
Year	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total (%)
2002	4	1	4	2	2	1	3	2	5	0	5	1	3	2	4	2	3	1	3	2	4	2	6	3	65 (8.62)
2003	5	4	6	2	4	2	4	1	5	4	1	2	5	1	7	3	2	1	3	0	3	3	3	1	72(9.55)
2004	4	2	3	3	4	4	3	4	6	4	3	1	5	1	3	3	4	1	3	3	6	4	8	4	86(11.41)
2005	5	4	5	3	7	3	4	3	6	7	5	4	5	5	3	3	4	5	6	3	4	2	4	3	102(13.53)
2006	7	4	7	5	8	3	8	5	6	3	6	4	11	3	8	2	11	8	6	5	8	5	4	4	141(18.70)
2007	9	8	13	10	18	13	16	17	10	14	20	13	15	10	8	6	8	5	16	8	18	14	12	7	288(38.20)
Total	57		63		69		70		65		66		52		53		57		73		59		754		100

Key: M = Male, F = Female

Table 2: Occurrence of *Diabetes Mellitus* disease by sex in Federal Medical Centre, Katsina

Year	2002	2003	2004	2005	2006	2007	Total (%)
Male	46	48	52	57	90	163	456(60.48%)
Female	19	24	34	45	51	125	298(39.52%)
Total	65	72	86	102	141	288	754(100%)

Table 3: Occurrence of *Diabetes Mellitus* by age range in Federal Medical Centre, Katsina (2002 – 2007)

Year	25 – 34	35 – 44	45 – 54	55 – 64	65 – 74	Total (%)
2002	4	9	14	17	21	65(8.62%)
2003	3	11	16	19	23	72(9.55%)
2004	4	7	15	26	34	86(11.41%)
2005	5	11	23	24	59	102(13.53%)
2006	6	15	26	38	56	141(18.70%)
2007	6	27	71	68	116	288(38.20%)
Total	28(3.71%)	80(10.61%)	165(21.88%)	192(25.46%)	289(38.33%)	754(100%)

DISCUSSION

This work shows that *Diabetes Mellitus* is more prevalent in 2007, while the least incidence was recorded in 2002. There was a steady increase in the occurrence of the disease from the year 2002 to the year 2007 and highest rate of increase in the prevalence might be attributed to change in lifestyle associated with feeding habits and urbanization. This agrees with the findings of Omran (1971), Mosley *et al.* (1993) and Mbanya *et al.* (2001).

Males appeared to be affected more than the females. This agrees with the findings of Nwafor and Owhoji (2001) and Ebenezer *et al.* (2003). This may be due to high fat consumption by males and corresponding reduced complex carbohydrate intake and sedentary lifestyle.

Older individuals were the most affected group, while the younger ones were least affected. This agrees with the findings of Ebenezer *et. al.* (2003), Bakari and Onyemelukwe (2004) and NDCPN (2007). Individuals of age ≥65 were more affected due the fact that people of this area do not engage themselves in physical activities such as exercise at old age which leads to accumulation of fats and inadequate burning of sugar in their body. This might be attributed to the fact that at older ages physiological and metabolic activities tend to slow down and the immune system to fight infections is also weak.

CONCLUSION

This study has revealed the incidence of *Diabetes mellitus* in Federal Medical Centre, Katsina. There was an increase in occurrence of the disease during the period of study, and as such there is need for more diabetic awareness programme so as to identify people with diabetes early enough with the aim of providing treatment regimens.

RECOMMENDATIONS

People should engage themselves in physical activity or exercise regularly and be encouraged to live on diet that is high in fibre content. Also patients who suspect they may have *Diabetes Mellitus* should visit nearest hospital for early assessment and confirmation.

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