Full Length Research Paper

Status of management of diabetes mellitus by traditional medicine practitioners in Nigeria

Jegede, A.*, Oladosu, P., Ameh, S., Kolo, I., Izebe, K., Builders, P., Yahaya T., Okhale, S., Mustapha, B., Busu, S., Shittu, H. and Gamaniel, K.

National Institute for Pharmaceutical Research and Development, Abuja, Nigeria.

Traditional medicine (TM) as practiced in Nigeria is involved with the management of diseases such as (HIV/AIDs), malaria, tuberculosis, diabetes mellitus, hypertension, fungal infections, and cancerous growths among others. Diabetes mellitus is a universal health problem affecting human societies at all stages of development. The prevalence of diabetes mellitus has been increasing steadily in Nigeria and this trend might be attributed to expensive and un- accessible anti diabetic drugs, negative lifestyles and genetic makeup, among other reasons. Most sufferers have therefore resulted to consulting traditional medical practitioners (TMPs) to manage their health conditions. Currently there are no available data on the role and status of traditional medicine practice in the management on diabetes mellitus in Nigeria. A survey was therefore conducted in November 2009 to document the status of traditional medicine practice involved in the management of diabetes mellitus in six geographical zones of the country. Data was collected by oral interviews of over 70 TMPs and their responses documented in a specially designed questionnaire. This paper intends to highlight the results obtained from the survey with the aim of providing a better understanding of TM practice and availability of necessary statistics to aid the promotion, standardization and integration of the practice into national health care system.

Key words: Traditional medical practice, diabetes mellitus, medicinal plants, survey.

INTRODUCTION

Traditional medicine (TM) according to the World Health Organisation (WHO) "is the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness (World Health Organization, 1985). TM as practiced in Nigeria and other African countries is involved in the management of

diseases such as HIV/AIDs, malaria, tuberculosis, diabetes mellitus, hypertension, fungal infections, cancerous growths among others. Diabetes mellitus is a metabolic disease characterized by high blood glucose level resulting from defects in insulin secretion, insulin action or both (Khan et al., 2009). It is a chronic disorder that affects the metabolism of carbohydrates, fats, proteins and electrolytes in the body, leading to severe complications which are classified into acute, sub-acute and chronic (Kumar and Clark, 2002). According to the 2004 estimates of the Diabetes Association of Nigeria (DAN), the diabetics' population in Nigeria was about 10 million (Ogbera et al., 2005). The WHO estimated the disease in adults was about 173 million in 2000, two-thirds of which live in developing countries (Wild et al., 2004). The prevalence of diabetes mellitus is on the increase worldwide and it is still expected to increase by 5.4% in 2025 (Moller and Flier, 1991). Increase in sedentary lifestyle, consumption of energy-rich diet and

---

*Corresponding author. E-mail: adeolajegede@yahoo.com.

obesity are some of the factors causing the rise in the number of diabetics. Several reports have stressed the high mortality from diabetes especially among the black populations (Levitt et al., 1993; Erasmus et al., 1999). Over the years incidence of the disease has been increasing steadily in Nigeria and this trend might be attributed to expensive and un- accessible anti diabetic drugs, negative lifestyles and genetic makeup, among other reasons. Most sufferers have therefore resulted to consulting TMPs to manage their health conditions. Herbal medicines which is a component of traditional medicine, continues to play an important role in diabetic therapy, particularly in the developing countries where most people have limited resources and do not have access to modern treatment (Ali et al., 2006). WHO has also authenticated the use of herbal remedies for the treatment of diabetes (Bailey and Day, 1989). The increase in demand for the use of plant based medicines over the years has necessitated the call for improvement in the standardization and integration of TM into the national health care system as observed in India and China, where this has taken place.

Objectives

Currently there is inadequate data to show the status of traditional medicine practice in the management on diabetes mellitus in Nigeria. Most surveys conducted have focused on the documentation of medicinal plants used in the management of the disease (Etuk et al., 2009; Gbolade, 2009; Adebayo et al., 2009; Etuk and Mohammed, 2009). The aim of the study is to investigate and provide preliminary data for better understanding and improvement of TM practice, promotion, standardization and integration of the practice into national health care system.

METHODOLOGY

Determination of study area

For the purpose of this study, the country as the study area was divided into 6 geographical zones namely South South (SS), South East (SE), South West (SW), North East (NE), North Central (NC) and North West NW) Figure 1. Selected towns and cities representing each zone were chosen as study sites, namely Calabar for SS, Enugu for NE, Ibadan and Abeokuta for SW, Maiduguri for NE, Jos, Makurdi and Lafia for NC and Katsina for NW.

Identification of study contacts

Contacts were made with representative members of the TMPs in these different zones explaining the purpose of the study and soliciting for their support, before embarking on the trips. Mutually agreed dates for the trip were decided upon before the commencement of the study.

Preparation of survey instruments

Specially designed questionnaire tittled Traditional Healers Interview Form was developed to capture the necessary data during the survey. The first preamble on it was the consent form followed by 4 sections (a) site data, (b) personal data of TMP (c) Knowledge about diabetes mellitus and (d) Collaboration .The questions included their personal bio-data, level of understanding of the disease, method of diagnosis, challenges of their practice, whether they do laboratory tests before and after their treatments, availability of referral system (s), training needs, record keeping methods, availability of raw materials, status of their practice, expectations from government among other questions.

Administration of survey instrument/questionnaire

The administration of the questionnaire is preceded by the observance of the necessary culture norms of the people, followed by exchange of pleasantries, explanation of the study objective, filling of the consent form and the interview. Effort was made to ensure that a member of the study team fill response of the interviewee the questionnaire to ensure data quality, monetary compensation was paid to the TMPs for their time and co operation.

Collation and analysis of survey data

All the filled questionnaires were sorted out zone by zone, coded and information contained filled unto a database developed for the project. Analysis of the database was carried out by developing necessary questions and requesting the data base for results.

RESULTS

The study was conducted between November 2009 and January 2010 at the various homes or clinics of the TMPs. Employing the structured questionnaire a total number of 75 Practitioners in the selected study area were interviewed, comprising of both males and females of various religious backgrounds.

Bio data of TMPs

Figures 2, 3, 4, 5 and 6 show some graphical details of the bio data section of the questionnaire.

Collaboration with scientists /researchers

The TMPs interviewed in this study claimed to diagnose diabetes mellitus by physical observation of the patients (such as loss of weight and fatigue), frequent urination, family history and observance of presence/absence of sugar ants in urine. In the North Central zone many do refer patients to hospitals for test before and after treatments showing collaboration between orthodox and TM, while few of them admit patients. Many claimed that
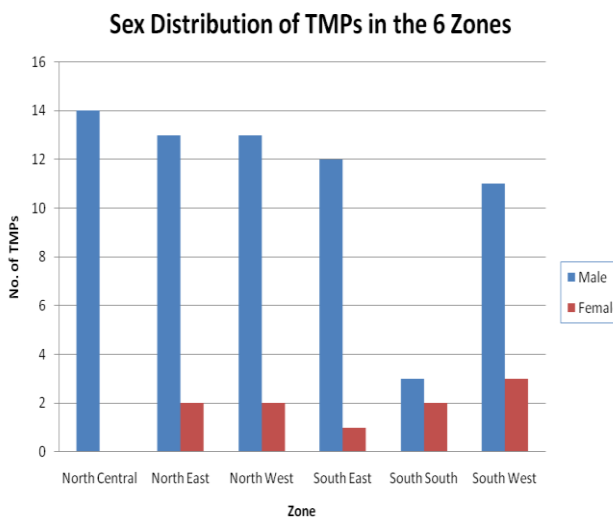
Figure 1. Map of Nigeria.

Figure 2. Sex distribution of TMPs in the 6 zones.

there is disappearance or significant decrease of sugar ants the patients' urine, decrease in frequency of urination and an increase in weight as evidence of the effectiveness of their preparations. Generally herbal preparations are taken orally for a period of time usually between 2 to 6 months depending on the severity of the disease according to our study. Some of the herbalists consulted claimed no adverse effect and total cure after treatment. These reports therefore may support why many patients seek relief from traditional healers who administer plant preparations for the treatment of the disease. Majority of the interviewed TMPs encourage patients to have a change of life style and abstain from excessive consumption of starch foods, cigarette

smoking, and alcohol intake, while encouraging the intake of leafy vegetables, fruits and beans.

This supports the strong relationship between the incidence of diabetes mellitus and lifestyle. A higher percentage of the TMPs interviewed confirmed the use of mainly plant based products with an exception of one that uses mineral nutrients for his treatment. The average number of patients treated yearly by the 75 TMPs is about 3,000 and this number is significant if we consider the total number of TMPs treating patients nationwide. 73% of the TMPs interviewed in the North central zone treated over 20 patients in a year as shown above in Figure 7. There is the need to carry a survey of the number of TMPs that are actively involved in the management if diabetes mellitus in Nigeria for proper statistics. Lack of proper record keeping was also a hindrance to the determination of the actual number of patients treated yearly and this was observed in cases. There is therefore the need for trainings in this regard the interviewed TMPs did not keep records as indicated especially for the younger ones in the practise. Majority of of the interviewed TMPs did not keep records as indicated in Figure 8. The major challenge confronting TMPs is the need for further training in the standardization of their practice and products; need for establishment of a traditional medicine clinic /hospital where they can practise as many use their houses to double as clinic, need for grinding machines, and funding support for the practice. De forestation is still a big problem as many had to go far into the forests to source for the medicinal plants.

Conclusion

The establishment of a database on the practice and practitioners of TM, which is an ongoing process, is a welcome development for the effective documentation of TM practitioners involved in the management of diabetes mellitus in the country. The author hopes this will assist in the establishment of the TM information system as stated in the Nigerian Traditional Medicine policy, 2007. From our study it is clear that there is a high level of understanding of the disease condition and availability remedies that manage it. Scientific verification of these remedies is hereby advised towards improvement in their presentation and use. Even though the sample size of this preliminary study small, it has shown a trend which can be further studied. All of these are in line with the objective the Bamako Initiative on Traditional Medicine (2005) and National Strategic Health Development Plan (NSHDP) 2010 to 2015 as produced by the Federal Ministry of Health, Nigeria.

ACKNOWLEDGEMENT
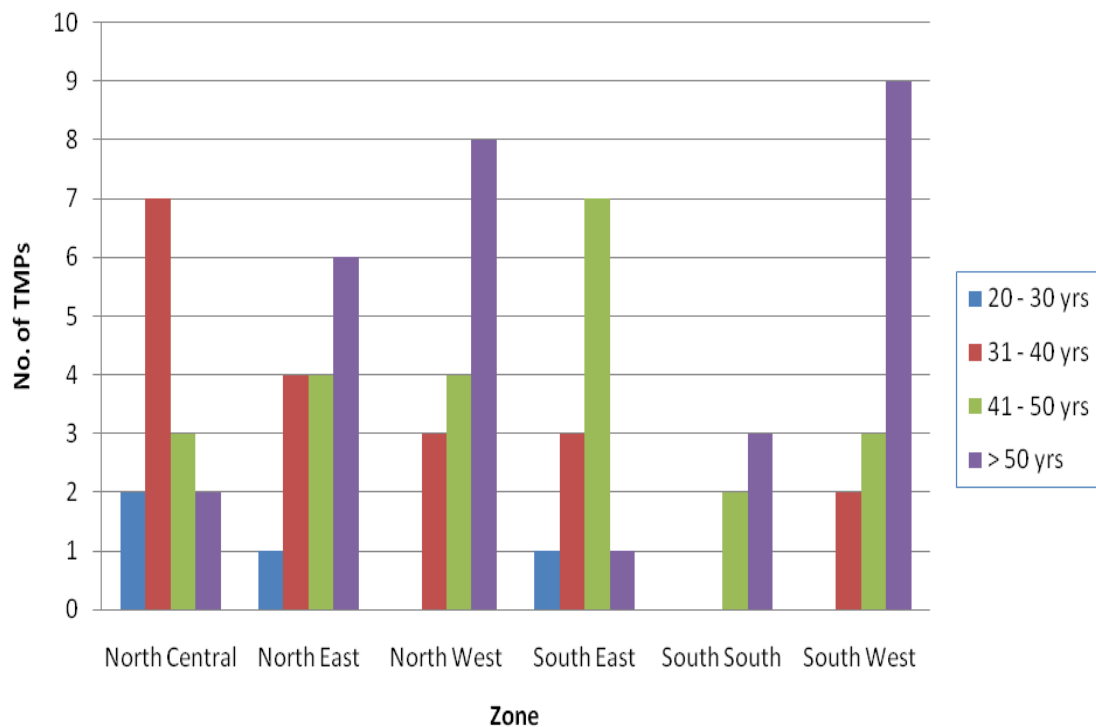
Age Distribution of TMPs in the 6 Zones

Figure 3. Age distribution of TMps in the 6 zones.

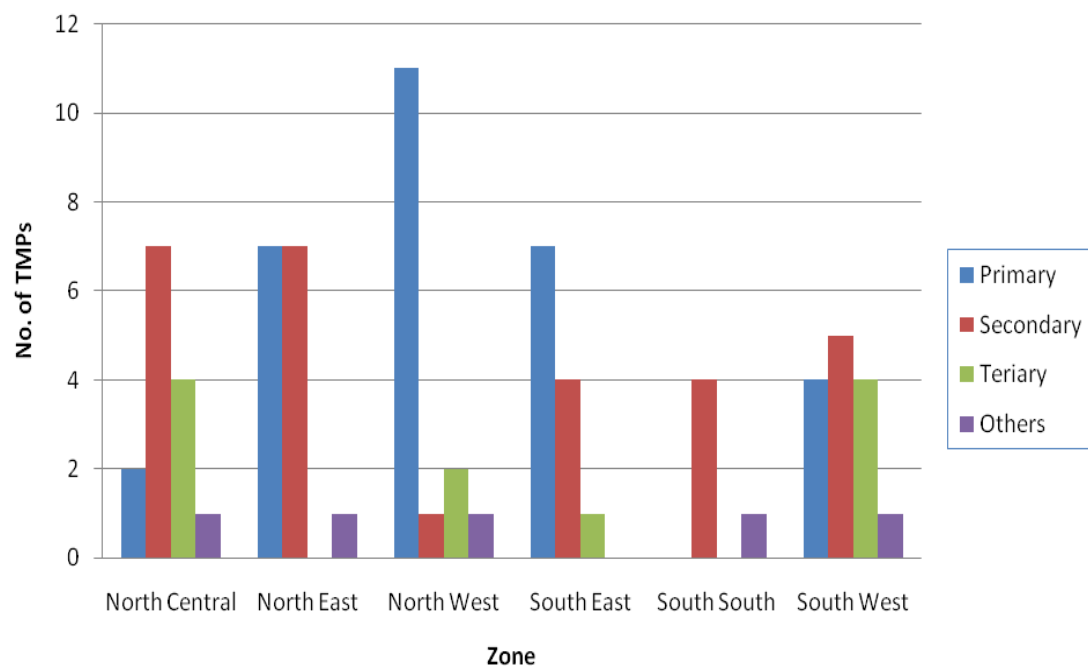# TMPs Educational Levels for the 6 Zones

Figure 4. Educational backgroung of TMPs in the 6 zones.
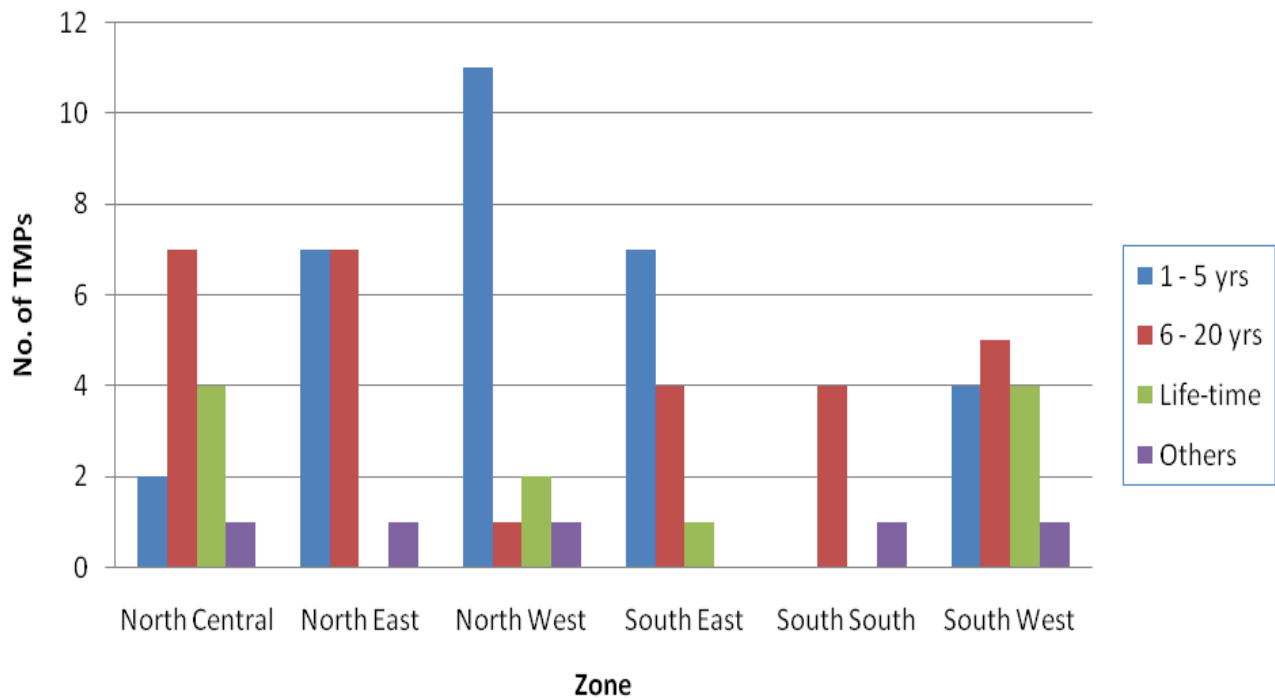
Length of Service in Traditional Medicine Practice

Figure 5. Length of years of practising.

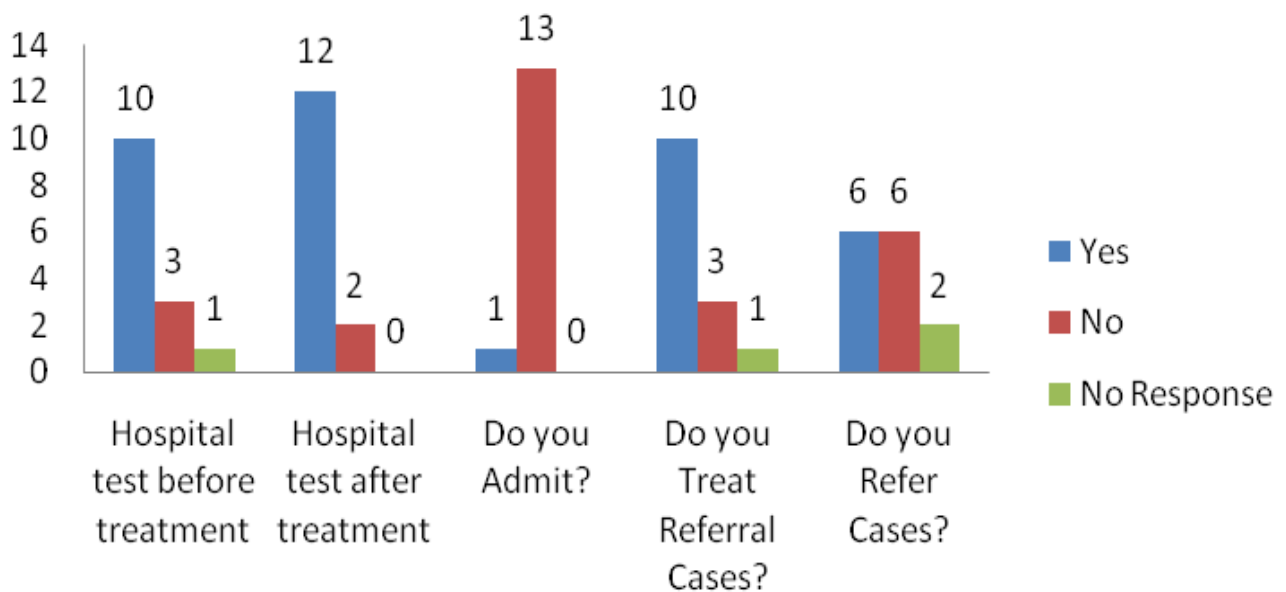## Patient's Referral/Admission Cases (North Central)

Figure 6. Referral and admission by TMPs in North central Nigeria.
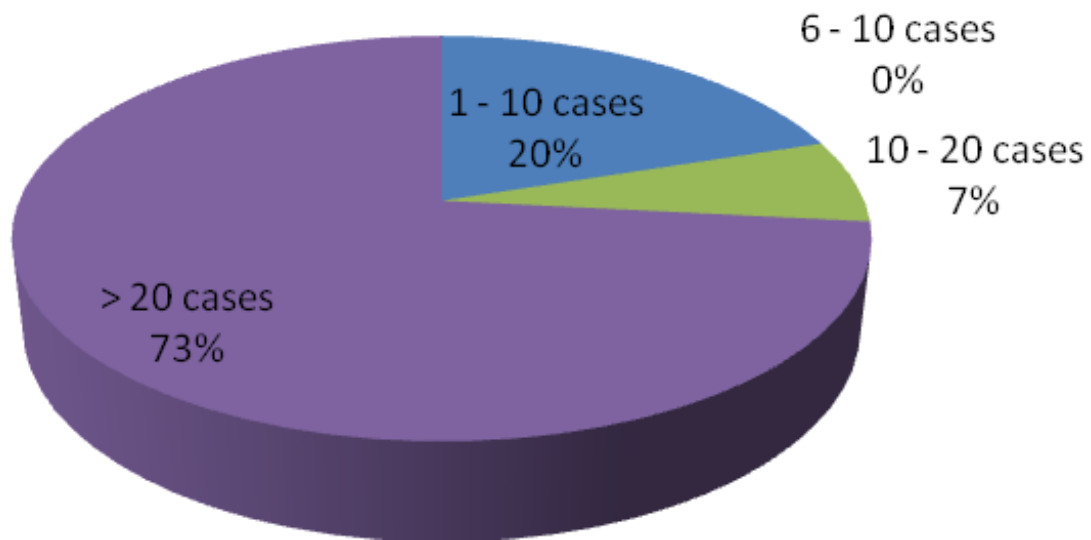
Cases treated annually (North Central)

Figure 7. Number of cases treated annually by selected TMPs in North Central Nigeria.
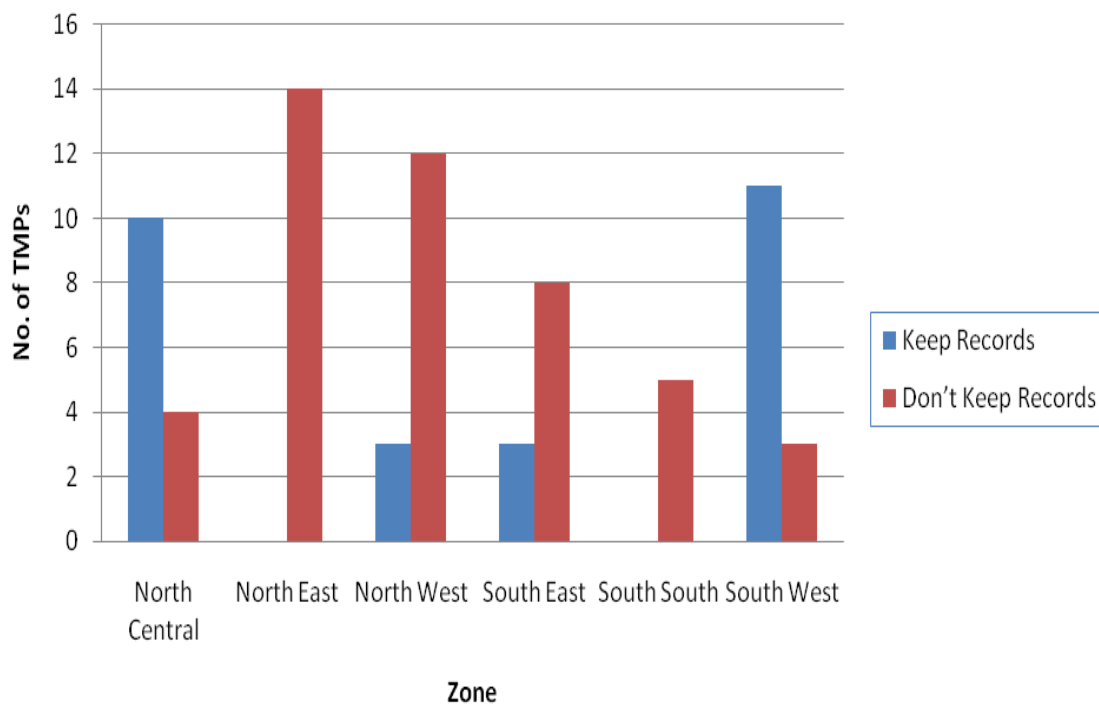
Record Keeping of Cases of DM by TMPs

Figure 8. Record keeping by TMPs.

REFERENCES

Adebayo I, Alabi OT, Owoyele BV, Soladoye AO (2009). Antidiabetic properties of the aqueous leaf extract of *Bougainvillea glabra* on alloxan-induced diabetic rats. Afr. J. Pharm. Pharmacol., 3(10): 496-500.

Ali H, Houghton PJ, Soumyanath A (2006). α-amylase inhibitory activity of some Malaysian plants used to treat diabetes, with particular reference to *Phyllanthus amarus*. J. Ethnopharmacol., 107: 449-455.

Bailey CJ, Day C (1989). Traditional plant medicines as treatment for diabetes. Diabetes Care, 12: 553-564.

Erasmus R T, Blanco E B, Okesina AB, Gqweta Z, Matsha T (1999). Assessment of glycaemic control in stable type 2 black South Africans diabetics attending a peri-urban clinic. Postgrad. Med. J., 75: 603-606.

Etuk EU, Mohammed BJ (2009). Department of Pharmacology, College of Health Sciences, Usmanu Danfodiyo University, Sokoto, Nigeria.

Etuk EU, Bello SO Isezuo S A, Mohammed, B J (2009). Ethnobotanical Survey of Medicinal Plants used for the Treatment of Diabetes Mellitus in the North Western Region of Nigeria. J. Ethnopharmacol., 121: 135-139.

Gbolade AA (2009). Inventory of antidiabetic plants in selected districts of Lagos State, Nigeria. Rec. Nat. Prod., 3(4): 187-192.

Khan A, Zaman G, Anderson RA (2009). Bay leaves improve glucose and lipid profile of people with Type 2 diabetes. J. Clin. Biochem. Nutr., 44: 52-56.

Kumar PJ, Clark M (2002). Textbook of Clinical Medicine. Saunders; London, pp. 1099-1121.

Levitt NS, Katzenellenbongen JM, Bradshaw D, Hoffman MN, Bonnice F(1993). The prevalence and identification of risk factor for NIDDM in urban Africans in Cape Town, South Africa. Diabetes Care, 16: 601-607.

Moller E, Flier JS (1991). Insulin resistance—mechanism, syndromes, and implications. Engl. J. Med., 325: 938-948.

Ogbera AO, Adedokun A, Fasanmade OA, Ohwovoriole AE, Ajani M (2005). The food at risk in Nigerians with diabetes mellitus. The Nigerian scenario. Int. J. Endocrinol. Metabolism, 4: 165-173.

Wild S, Roglic G, Green A, Sicree R, King H (2004). Global prevalence of diabetes, estimates for the year 2000 and projections for 2030. Diabetes Care, 27: 1047-1053.

World Health Organization (1985). Diabetes mellitus: Report of a WHO Study Group. WHO Technical Report Series, p. 727.