



## **COMPLEMENTARY AND ALTERNATIVE MEDICINE USE AMONG TYPE 2 DIABETICS- ASSESSING PREVALENCE AND PATTERN IN A TERTIARY HOSPITAL IN SOUTH-SOUTH NIGERIA**

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### Abstract

**Background:** The World Health Organization estimates that a significant number of persons in Sub-Saharan Africa (SSA) depend on indigenous, Complementary and Alternative Medicine to attend to their primary healthcare needs. Furthermore diabetics are 1.6 times more likely than non-diabetics to use a Complementary and Alternative Medicine (CAM). The objectives of this study were to determine the prevalence of CAM use, to determine the medium of CAM introduction to the respondents and to know the pattern of CAM use among respondents.

**Methods:** The study was a hospital-based study, cross-sectional descriptive study of 260 Type 2 diabetic patients aged 18 years and older. Simple random sampling method was used to recruit respondents. A structured interviewer administered questionnaire was used to collect relevant data. Data was analysed using the Statistical Package for Social Sciences version 23. Frequency distribution tables, percentages, charts, were used to analyse data.

**Results:** The prevalence of CAM use was 36% (n=93), 49.5% (n=46) of respondent were introduced to the use of Complementary and Alternative Medicine by friends, colleagues, neighbor, sales rep and other diabetics and biological based CAM (>90%) was the most frequently used.

**Conclusion:** The study revealed that less than half of the respondents used CAM. Respondents were introduced to CAM by friends, colleagues, neighbours, Sales representatives and other diabetics. Biological based CAM products were the most commonly used.

**Keywords:** *Complementary and Alternative Medicine, Type 2 diabetes, tertiary hospital, south-south Nigeria.*

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## BACKGROUND

Diabetes Mellitus is a significant health care problem and challenge due to its high prevalence and its association with several health complications.<sup>1,2</sup> The burden of Type 2 Diabetes Mellitus (T2DM) is rising worldwide, especially in developing countries following industrial and economic development. The developing countries have moved to a more sedentary lifestyle, inadequate eating habits, and reduced physical activity.<sup>1</sup> Worldwide 589 million adults (20-79 years) worldwide have diabetes, with projections reaching 853 million by 2050.<sup>3</sup> Patients with diabetes are prone to developing macrovascular and microvascular complications, which increase the risk of mortality.<sup>4</sup> Currently, therapeutic protocols for T2DM are injection of insulin-like agents and oral administration of hypoglycaemic agents.<sup>3</sup> However, the World Health Organization estimates that more than 80% of the African populations rely on traditional medicine for their healthcare needs.<sup>5</sup> The terms 'complementary medicine', 'alternative medicine' and 'complementary and alternative medicine' (CAM) refer to a broad set of health practices and products typically not part of the 'conventional medicine' system.<sup>6</sup>

The National Center for Complementary and Integrative Health (NCCIH) grouped most types of complementary medicines under two categories: (1) natural products and (2) mind-body practices. The natural products include herbs, vitamins, minerals, and probiotics while the mind-body practices include yoga, chiropractic, massage, acupuncture, yoga, meditation, and massage therapy.<sup>7</sup> Types of CAM may vary across studies, but they overlap in most senses. Several comprehensive reviews have discussed the efficacy of some CAM therapies in the management of T2DM. However, many commonly used therapies remain not verified nor proven.<sup>8</sup> Great concern emerges when patients with T2DM substitute evidence based conventional treatments of the disease with CAM modalities thus ruining the efficacy of the treatment, control and management of their condition. The risk of CAM-drug interactions when oral CAM are used as complements to conventional treatment is also another reason for concern.<sup>8</sup> These CAM may worsen glycemic control or create complications like toxicities for patients with T2DM. The chronic overdose

administration of Ginseng may cause gastrointestinal, mental, cardiovascular, and hormone disorders.<sup>8</sup> Fenugreek if combined with aspirin (which is frequently taken by T2DM patients) may increase the risk of bleeding.<sup>8</sup> Scientific research have warned against the excessive and chronic intake of garlic and cinnamon for the treatment of T2DM as it may result in significant adverse health outcomes, like contact irritation, allergic reaction, or gastrointestinal troubles.<sup>8</sup> A better understanding of CAM use will enable the medical profession be more alert and patient-centered, during patient care.

There are various reasons why patients use traditional therapies or products. These products have their side effects and can interact with conventional medications. This study was done to provide information on Complementary and Alternative Medicine(CAM) use in type 2 diabetics attending the Family Medicine Clinic of Rivers State University Teaching Hospital (RSUTH). The data from this study was to help the Physician to proactively assess for CAM use, counsel and manage patients with type 2 diabetes mellitus.

Objectives of the study were to determine the prevalence of CAM use, the source of CAM information to the respondents and to know the pattern of CAM use among respondents.

## METHODS

This study was conducted in the Family Medicine clinic of Rivers State University Teaching Hospital (RSUTH). The study was done in 24weeks. Inclusion criteria were Type 2 diabetics  $\geq 18$  years who consented to be part of the study and Type 2 diabetics who have been diagnosed for  $\geq 3$  months duration. The exclusion criteria were Type 2 diabetic patients who were mentally challenged, type 2 diabetic patients visiting the Family medicine clinic for the first time and type 2 diabetics who were too ill to participate in the study

For the purpose of this study, Complementary and Alternative Medicine was defined as therapies (topical, oral and otherwise) not prescribed by a doctor or considered by conventional medicine.

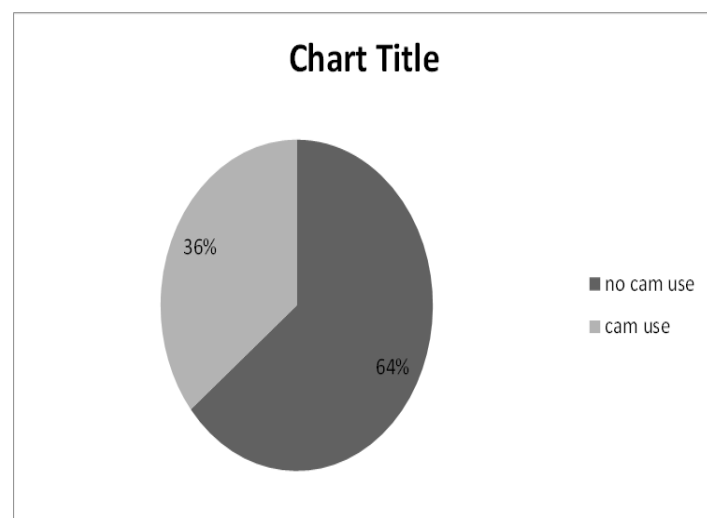


All data was collected at the Family Medicine Clinic of the Rivers State University Teaching Hospital by the researcher. A pre-tested, structured interviewer administered questionnaire was used to collect information from the respondents.

Ethical approval was sought and gotten from the Rivers State Hospital Management Board Ethical committee. An informed consent was sought and obtained from each respondent before recruitment.

## RESULTS

This study was carried out among type 2 diabetic patients that receive care at the Family Medicine Department of the Rivers State University Teaching Hospital. Information on their bio-data, clinical details and Complementary and Alternative use were obtained from them. A total of 260 questionnaires were administered with a 100% response rate. The 260 patients with type 2 diabetes mellitus recruited into the study had a mean age of 58.69 years. Most of the participants were females (65.3%) with a male to female ratio (M: F) of about 1:2.



**Fig.1** Prevalence of Complementary and Alternative Medicine use among all respondents

The pie chart shows a prevalence of 36% for Complementary and Alternative Medicine use amongst the respondents

**Table 1: Source of information on CAM**

Variable	Frequency (n) (%)
Self	21 (22.6)
Family	19 (20.4)
Health care worker	4 (4.3)
Pastor	3 (3.2)
Others (Friends, Colleagues, neighbour, Sales rep, other diabetics)	46 (49.5)

Table 1 shows that 49.5% of respondents were introduced to the use of Complementary and Alternative Medicine by Others, 22.6% of the respondents had started using Complementary and Alternative Medicine based on self-prescription.

**Table 2: Pattern of Complementary and Alternative Medicine use for Type 2 diabetics**

Characteristics	Frequency(n)	Percentage (%)
<b>Biological based</b>		
Bitter leaf	14	15.1
Others	3	3.2
Combination	75	80.6
<b>Manipulative and body-based systems</b>		
Massage	1	1.1
Alternative medicine systems	0	0
Energy Therapies	0	0
Mind-body interventions	0	0



Table 2 shows that combination of biological based products were used the most with a percentage of 80%.

## DISCUSSION

The present study provides insight into the prevalence and pattern of using CAM among T2DM patients in a tertiary hospital in south-south Nigeria. This is an important concern for the physicians to look for as it can be a potential source of drug interaction as well as patients' non-compliance to prescribed management plan and ultimately hamper the optimum glycemic management. The overall prevalence of using CAM found in this study was 36% which was similar to 35.2% and 39.3% prevalence rates gotten in the research done by Rafi et al and Radwan et al<sup>2,8</sup> Being a localized study in a hospital serving patients mainly from the southern part of Nigeria, findings of this study may not be inferential for all the patients of different parts of Nigeria. This finding was lower compared to the prevalence rates of 89%% and 69% in studies done by Gohorat et al in Iran and Oluwatoyin, Akinniyi and Babatope in South West Nigeria.<sup>9,10</sup> Different socio-cultural orientations, patients' health beliefs, and attitudes, as well as the health care system and access to modern medicine, could be attributable to the regional variation of using CAM. Moreover, variations in defining CAM in different study designs might have also contributed to this variation.<sup>2</sup>

The findings in this study show the influence of others 49.5% (n=46) on the use of Complementary and Alternative Medicine by type 2 diabetic patients. A similar finding was reported in the study by Oluwatoyin, Akinniyi and Babatope. Patients were introduced to CAM mainly by friends (41%) and neighbours (38.5%).<sup>10</sup> Similarly in a research carried out in United Arab Emirates majority of CAM users were being referred or encouraged to use CAM by family, friends, or social media's influence.<sup>8</sup> This shows the influence of others in the choice to use CAM by type 2 diabetics. However health care practitioners remain minimally engaged in their patients' decisions regarding the use of CAM as shown by the 4.3% seen in this study and 13.5% by Radwan et al.<sup>8</sup> This finding provides reason to advocate for a more engaging role of physicians in exploring their patients' self-use of other forms of treatment.

In this study, 98% of Complementary and Alternative Medicine used were biological products. Of this 98%, 81% of these biological products were in combination, 15% was bitterleaf and 4% was either of scent leaf or vinegar leaf. This was similar to the findings in the studies done in Southwest Nigeria and Pakistan that reported biological therapy as the commonest Complementary and Alternative and Medicine therapy used.<sup>11,12</sup> The reason that could have contributed to the common use of herbal medicine is the fact that these remedies are widely and freely available.

## CONCLUSION

The study revealed that type 2 diabetics used CAM and that they were commonly introduced to CAM by friends, colleagues, neighbors, Sales representatives and other diabetics. Biological based CAM products were the most commonly used.

## RECOMMENDATION

Therefore a Physician must regularly and carefully assess the use of Complementary and Alternative Medicine of patients, document the types, sources and reasons given by patients for use of Complementary and Alternative Medicine and their perceived effects. This information should help the Physician to educate the patient on side effects and possible drug interactions as well as any benefit associated with Complementary and Alternative Medicine use.

## LIMITATIONS OF STUDY

1. Findings cannot be extrapolated to the general population. Since the study is a hospital based cross sectional study.
2. The questionnaire used in this study was interviewer-administered therefore some participants may have hidden their actual use of Complementary and Alternative Medicine due to the fear of offending the healthcare provider.

## AUTHOR'S CONTRIBUTION

All authors made contributions to various aspects (Conceptualisation, Methodology, Project administration,



Writing – original draft, Writing – review & editing e.t.c) of the research.

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## **DISCLOSURE**

Nil

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