African Journal of Tropical Medicine and Biomedical Research (AJTMBR)



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The African Journal of Tropical Medicine and Biomedical Research is a multidisciplinary and international journal published by the College of Health Sciences, Delta State University of Abraka, Nigeria. It provides a forum for Authors working in Africa to share their research findings on all aspects of Tropical Medicine and Biomedical Sciences and to disseminate innovative, relevant and useful information on tropical medicine and biomedical sciences throughout the continent. The journal will publish original research articles, reviews, editorials, commentaries, short reports, case reports and letters to the editor. Articles are welcome in all branches of medicine and dentistry including basic sciences (Anatomy, Biochemistry, Physiology, Pharmacology, Psychology, Nursing etc) and clinical (Internal Medicine, Surgery, Obstetrics and Gynaecology, Dental surgery, Child Health, Laboratory Sciences, Radiology, Community Medicine, etc). Articles are also welcome from social science researchers that document the intermediating and background social factors influencing health in countries of Africa. Priority will be given to publication of articles that describe the application of the principles of primary health care in the prevention and treatment of diseases.

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Acknowledgments

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Table of Contents

Editorial Commentary	
The Desired Impact of Picture Archiving and Communication System (PACS) on Medical Research and Education: Its Shortcoming in A Centre in South Nigeria	7-8
Kogha N, Ekokidolor OE, Ebereghwa E, Anywanwu EB	
Original Articles	
The Awareness of Cervical Cancer Prevention Strategies among Resident Doctors in Tertiary Centre in Benin City	9-21
Osazee K and Obahiaghon O	
Plasma electrolytes, osmolality and lipid profile in patients with acute stroke in a tertiary hospital in South-South, Nigeria. *Adewolu O.F, Odiase F*	22-29
Management of Ear Infections by Primary Healthcare Workers Babalola OE., Adeyemo AA.	30-39
Inhibition of <i>Naja nigricollis</i> Venom Phospholipase A2 by Ethylacetate Extract of <i>Solanum dasyphyllum</i> Schum and Thonn leaf: An <i>In-vitro</i> and <i>In-silico</i> Approach	40-50
Adewunmi RF, Yesufu HB, Gidado, Pudza JS	
Socio-economic and Clinical Correlates amongst Hypertensive Patients utilizing Complementary and Alternative Medicines (CAM) in A Tertiary Health Institution in Niger Delta, Nigeria.	51-62
Afamefuna FU, Yovwin DG, Anyanwu EB	
Knowledge and Uptake of Covid-19 Vaccine Amongst Students of Tertiary Institutions in Oghara, Delta State, Nigeria	63-76
Enemuwe IM, Akpughe H, Umunade EC, Udeh IS, Ucheya IV, Suame PM, Odonmeta BA.	
A Computed Tomographic Study on The Morphological Variants of The Uncinate Process in A Selected Nigerian Population Ominde BS, Ikubor J, Enaohwo MT, Iju WJ, Igbigbi PS	77-85
ReviewArticles	
The Pharmacological Profile, Therapeutic Importance and Limitations with the Use of Oxycodone: A Review	86-99
Umukoro, EK, Elijah OB, Ighen VJO, Moke EG	
Acute Kidney Injury in The Critically ill Patient: A Review of Epidemiological Studies in Low-middle Income Countries Ajuyah R, Okoye O	100-108

Editorial Commentary

The Desired Impact of Picture Archiving and Communication System (PACS) on Medical Research and Education: Its Shortcoming in A Centre in South South Nigeria

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INTRODUCTION

The ability to utilize the Picture Archiving and Communication System (PACS) to conduct research has been well documented in literature and has been used to conduct several profitable and notable researches. With this novel technology, researchers can easy retrieve data domiciled in PACS. The picture archiving and communication system (PACS) achieves this easy access to data by its working capacity of archiving, retrieving and routing or directing data to where they are needed. This is the expectation, but occasionally, things do not operate quite easily as it ought to. System failure occasioned by several intimidating factors could operate to hamper the usual smooth running of PACS.

Expectation and challenges

The components of a working PACS are assembled to acquire all images produced in the radiology department in a digital mode, thereby making it a filmless department. The innovative technology removes the old conventional way of

producing images that are given to the patients in a paper jacket. The need for a dark-room, with tables carrying several trays filled with developing chemicals are subsequently discarded.

But occasionally, the smooth running of the system may fail, possibly due to electrical power outage or electrical power surges that could damage sensitive components in the machines. This negative challenge have been reported in the medical centre where PACS was installed. Apparently, no electrical stabilizers were installed along with the PACS. Due to this error electrical power fluctuations, and there were many instances, were transmitted to the sensitive component of the system, leading to damages.

Secondly, at the commencement of the utilization of the PACS at Delta State University Teaching Hospital, many dedicated consulting clinics with brand new computer sets where connected directly to the disseminating PACS office, images and reports were routed to these computer sets. At this period, consultation was relatively fast,

with patients literally viewing their images and reports online. The film clarity was good, such that patients could easily believe what reports they were given. Patients also had access to these images and reports outside the institution in the event of referrals and outside consultation. But with aging of the computer sets, and the economic situation did not allow for quick replacement, the online routing of images and reports declined drastically. With this development, the only available way of communicating results to the clinicians was via typical paper reports.

Thirdly, due to the stringent economic situation, attempts were made to repair damaged computers. However, this attempt failed because it was difficult to obtain genuine electrical parts of damaged computers. Thus, making it difficult to sustain the PACS in our centre.

Fourthly, the unwholesome incidence of the uni-directional migration of many of our skilled workers abroad for greener pastures has resulted in shortage of trained personnel at various levels of the work-force. A trend that was so severe there was less than 25% of the dedicated workforce available at certain time. This shortage of trained personnel led to increased workload on available staff as well as prolonged turnaround times in service delivery with delays in acquisition, processing and reporting images via the PACS. Furthermore, there was no reciprocal increment in the remuneration of these overworked staff to encourage and boost their morale.

All these challenges impacted negatively on the clinicians' interest to use the PACS to conduct teaching sessions with their students. Also, the possibility of utilization of the data for research was reduced due to the non-visibility of the PACS.¹

Recommendation

Government funding of this technology is required especially in acquisition of dedicated electrical stabilizers, and replacement of damaged computers because of the desired importance of PACS in medical education and research.

Recruitment of new personnel to reduced work burden on the already depleted personnel is highly recommended.

Retraining of PACS personnel and clinicians is necessary to sustain the positive effects of this technology in medical education and research.

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