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EDITORIAL

Welcome to the 14th Volume of the SMD Research Newsletter. The research activities of the departments appear to have slowed down and most of them have already been reported by the Newsletter. This notwithstanding, we continue to encourage faculty to generate new areas in research that will improve on knowledge and practice of medicine in all departments in the school. It is through innovation and research that we can impact our generation with improved outcomes in our practice. The research office organized a series of lectures/discussions on the design and analysis of clinical research from July to November 2018, as part of the monthly research forum of the School of Medicine and Dentistry. This was championed by Dr. Edmund Nartey who gave most of the lectures. The attendance was good and we hope this will improve research skills in the School and the Hospital.

The clinical images from neurosurgery under the clinical image section are a testimony to the strides made in treating complex spine diseases in the Department of Surgery. We also have interesting research highlights on preeclampsia, surgical site infections and the impact of plasmodium parasite infection on the placenta and perinatal outcome. The result of high incidence of surgical site infections in the Department of Surgery is worrying and urgent steps are necessary to identify the possible sources of infection. The landmark case is an extremely rare disease and I congratulate Professor E. Badoe, Head of Department of Child Health for his timely intervention to save the desperate condition of a 7 year old girl. We have found the education on breast cancer awareness very important and encourage faculty to carry the message to all and sundry.

The students of the School of Medicine and Dentistry in their quest to improve on environmental cleanliness have started exploring environmentally friendly waste management alternatives. This is captured in the student's corner.

The editorial committee is proud to feature Professor Julius



Professor Mark Tettey
Editor in Chief

Mingle as the distinguished personality for this volume. He sacrificed and contributed to the development of the Medical School. The committee also congratulates Professor Andrew Anthony Adjei for his election as a Fellow of the African Academy of Sciences. This was based on achievements that include publication record, innovations, leadership roles and contribution to policy in the University of Ghana and the world.

On behalf of the editorial committee, I wish to thank the Dean of the School of Medicine and Dentistry for her support for the research office. Her suggestions and counsel have helped improve our quality of work. I wish the editorial team, the research committee of the School of Medicine and Dentistry and the entire faculty happy and a fulfilling new year. I look forward to groundbreaking research activities in all departments of the School of Medicine and Dentistry in this New Year. God bless us all.

NEW YEAR MESSAGE FROM THE DEAN



Professor Margaret Lartey
Dean, SMD

Let me begin my message by wishing all our cherished readers, faculty and staff of the School of Medicine & Dentistry a very happy and prosperous new year. May 2019 bring with it lots of successes.

I congratulate our editor-in-chief, Prof. Mark Tettey for the innovations he has brought into the newsletter over the past year. He introduced the students' corner where the students report on a major activity that has taken place and I was excited to read "wise up waste down" a student led initiative to improve on waste management. There is also the land mark case, in which we share interventions performed by faculty or colleagues in the Korle Bu Teaching Hospital for instruction as well as information on what is available at KBTH. Last but

not the least is the eminent person column where we remember our teachers and pioneers for their contribution to medicine and medical education in Ghana. Well done, EIC.

The year had its good times; the UGMS alumni class of 1998 constructed and presented two extra learning places (summer huts) to the students and the class of 1994 is constructing a rest room for the drivers and a security post at the central administration. We have seen a return of foreign students to our school as well as a marked increase in demand for elective slots which are a result of the intense advocacy and canvassing we carried out in 2017. Our academic departments have continued to work hard despite the financial hardships to produce doctors and dentists.

All has not been rosy though; the school has suffered from non- recruitment of administrative staff leaving some offices empty for part of the year and many staff taking on more than one schedule. We congratulate them for keeping the school running. The school is still struggling financially and we are hopeful that this will soon be history. Once again we have lost some of our pioneering faculty and teachers who held departments afloat, sometimes singlehandedly for many years especially during the economic downturn. They are Prof. Anthony Kofi Foli (Medicine), Dr. Joseph Tandoh (Paediatric Surgery), Dr. Josiah O. Armah (Obstetrics & Gynaecology) and Dr.K. Atsina (Physiology). May their souls rest in perfect peace.

We appreciate the increased interest in research and the improved attendance at the monthly research meetings. We are still encouraging more people to attend and to form collaborative teams across departments and beyond to increase our research output.

Finally on behalf of management, I want to thank all faculty (full and part time), staff and students for their cooperation over the past year. We also appreciate all stakeholders especially KBTH, GHS, 37 Military Hospital, CHAG institutions and the College and Central University Administration for their support over the past year.

May 2019 see more of our dreams fulfilled. Happy New Year once again.

ON-GOING DEPARTMENTAL RESEARCH

Department of Child Health

Name of Researcher: Dr. Taiba Jibril Afaa

Title of Project: Endoscopic oesophageal dilatation in children at the Korle Bu Teaching Hospital: an initial experience

Aim of Research:

To describe the ability to feed without difficulties and its correlation with the number of dilatation per patient.

Department of Obstetrics & Gynaecology

Name of Researcher: Prof. J.D. Seffah

Title of Project: A Lift-Less Intervention To Prevent Preterm Birth (PTB) and Low Birth Weight (LBW) among Pregnant Ghanaian Women. Protocol of a Stepped - Wedge Cluster Randomized Controlled Trial

Aim of Research:

To investigate the effects of the lift-less intervention on the incidence of PTB and LBW among pregnant Women in Ghana

Name of Researcher: Hanson Gabriel Nuamah

Title of Project: The Impact of plasmodium parasite on the placenta and perinatal outcomes at Korle Bu Teaching Hospital: A case control study

Aim of Research:

To investigate the impact of plasmodium parasites on the placenta and perinatal outcomes at the Korle Bu Teaching Hospital

Name of Researcher: Tessa Heestermans (UMC Utrecht)

Title of Project: The effect of caesarean section techniques on postoperative pain at the Korle Bu Teaching Hospital

Aim of Research:

To investigate if specific techniques applied during the first emergency or elective caesarean section have an impact on the postoperative pain experienced by women

To elucidate the difference in perceived postoperative pain in women after emergency or elective caesarean section.

Department of Community and Preventive Dentistry

Name of Researcher: Dr. Daniel Tormeti

Title of Project: Periodontal status and tooth cleaning practices amongst fishermen and non-fishermen in a fishing community.

Aim of Research:

To determine periodontal status and tooth cleaning practices amongst fishermen and non-fishermen in James Town

Department of Biomaterial Science

- Name of Researcher:** Dr. N. Quartey-Papafio
Title of Project: Elemental characterization of local dental products sold on the Ghanaian market
Aim of Research: To determine the elemental composition and concentration of locally manufactured products on the Ghanaian market.
- Name of Researcher:** Dr. N. Quartey-Papafio
Title of Project: Elemental characterization of extracted amalgam fillings in Ghanaian dental patients
Aim of Research: To determine the elemental composition and concentration of extracted dental amalgam restoration fillings in Ghanaian patients.
-

Department of Surgery

- Name of Researcher:** Imoro Zeba Braimah
Title of Project: Efficacy and safety of ziv-aflibercept in patients with neovascular age related macular degeneration in a Ghanaian population.
Aim of Research: To evaluate the efficacy and safety of ziv-aflibercept in a Ghanaian population with neovascular age related macular degeneration (nAMD).

EDITORIAL COMMITTEE

Prof. Mark Tettey	Dr. Samuel A. Oppong	Mr. Isaac Andam
Prof. Frank Edwin	Ms. Ruth Laryea	Mrs. Georgina Obeng-Akrofi
Prof. Ebenezer Badoe	Ms. Margaret Reynolds	Ms. Aisha Muniru
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Dr. N. Quartey Papafio	Mr. Confidence Amelikeh	Mr. Daniel Nana Yaw Abankwah
Dr. Adziri Sackey	Mr. Bernard Barnie Asante	Mr. Abdul Rahman Al-Hasssan

Images in **Neuro Surgery**



ADOLESCENT IDIOPATHIC DEXTROSCOLIOSIS

Dr Harry Akoto

Neurosurgery Unit, Korle-bu Teaching Hospital

Twelve-year-old class 6 pupil presented with progressive lateral bending of the spine and had clumsiness when walking. She had a prominent right scapula and an elevated right shoulder but no limb-length discrepancy. Lower limb reflexes were all increased. Hoffman's sign was present. Cobb's angle progressed from 20° to 40° within a period of 12 months. A diagnosis of Adolescent Idiopathic Dextroscoliosis (AIS) was made. MRI revealed a syrinx from C5-C7. Echocardiography and ECG were normal, but spirometry showed mild restrictive pulmonary dysfunction.

She had corrective surgery with thoracoplasty from T3-T10 and posterior spinal fusion from T3-L2.

Post-operative radiographs showed a significant correction of the scoliosis. Both patient and parents were satisfied with the outcome.



Fig. 1. Adolescent idiopathic dextroscoliosis before surgery (arrow)

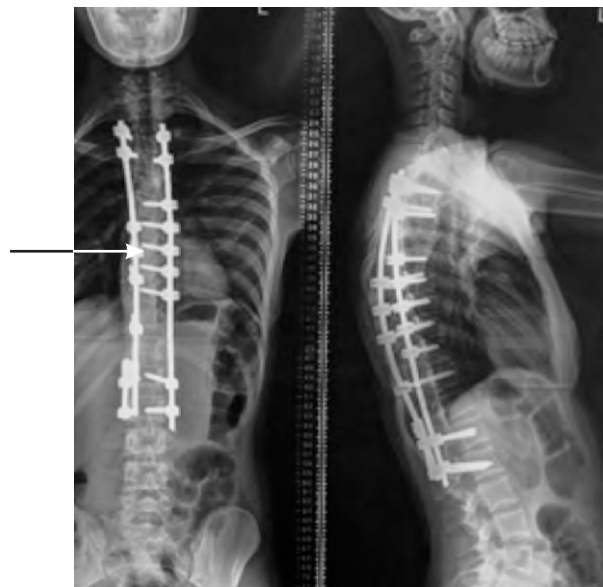


Fig. 2. Postoperative X-rays showing significant correction of scoliosis with metal rods (arrow).

RESEARCH HIGHLIGHTS

APOLIPOPROTEIN L1 AND INCREASED RISK OF PRE-ECLAMPSIA IN WEST AFRICA

Dr. Charlotte Osafo

Department of Internal Medicine,
School of Medicine and Dentistry
FOGARTY-NIH: EMERGING GLOBAL LEADER AWARD (K43)

Preeclampsia complicates 2-8% of all pregnancies and is an important cause of perinatal morbidity and mortality worldwide. Despite the remarkable overall progress in reducing maternal mortality worldwide, preeclampsia continues to be a major cause of maternal death, prematurity, and low birth weight in Africa. Preeclampsia is especially high in Ghana occurring in 7.9% of term pregnancies. Preeclampsia presents during mid pregnancy with hypertension and proteinuria, and frequently includes kidney, liver, hematological, and neurological dysfunction, as well as reduced fetal growth. Kidney disease is strongly linked to preeclampsia and may have a causative impact through abnormal vascular responses to placentation and endothelial dysfunction. A genetic predisposition to preeclampsia has long been suspected, but is essentially unstudied in Africa. As a candidate gene for preeclampsia association, apolipoprotein L1 (APOL1) is a known risk factor for end-stage and chronic kidney disease. APOL1 high-risk variants are present at very high frequency in the same West African populations that also show high levels of preeclampsia. The proposed research will (1) determine maternal and infant APOL1 risk variants and their association with preeclampsia, (2) provide novel insights into genetic factors that impact maternal risk and perinatal outcomes, and (3) create a West African preeclampsia genetics research infrastructure, based on a characterized patient cohort (700 cases and 700 controls) and a bio-specimen repository. The project will determine the association of APOL1 variants in mothers and infants, with preeclampsia frequency and neonatal health. The expression of APOL1 mRNA, stratified by APOL1 variant status, will be examined in placentas, in the preeclampsia patients/control population. Finally, the incidence of kidney disease, APOL1 variation, hypertension, and preeclampsia will be examined in the clinical population. The overall research objective is to uncover the interaction of



Dr. Charlotte Osafo

population genetic variation with preeclampsia, and maternal and infant health outcomes. We expect : 1) that the presence of both maternal and infant *APOL1* risk variants will be associated with preeclampsia; 2) to have novel insights into genetic factors that increase risk for worse perinatal outcomes; and (3) to create a research platform with a well characterized cohort and specimen repository for clinical and translation studies in preeclampsia among West Africans. Knowledge about *APOL1* risk variants in preeclampsia may point to a better understanding of the molecular pathways and better health care for both the women and their children.

This study will address an important public health issue as maternal health improves the health and welfare of entire communities

THE DEVELOPMENT OF A SURVEILLANCE SYSTEM FOR MONITORING SURGICAL SITE INFECTIONS IN A TEACHING HOSPITAL IN GHANA

Antoinette Bediako-Bowan: Principal investigator

Department of Surgery, School of Medicine and Dentistry, College of Health Sciences, University of Ghana and Department of Surgery, Korle Bu Teaching Hospital, Accra, Ghana, West Africa; Graduate School of Health Sciences, University of Copenhagen, Denmark and Statens Serum Institute, Copenhagen, Denmark.

Email: abediako-bowan@ug.edu.gh,

Background: Surgical site infections (SSI) are defined as infections occurring up to 30 days after surgery and up to 1 year for patients receiving implants. It impacts on the clinical and financial status of patient care, including increased risk of morbidity and mortality, length of hospital stay and treatment costs. Surveillance of SSIs helps institutions in the country devise strategies to reduce or prevent them.

This study contributes to knowledge on how to develop and implement a surveillance system for control of SSIs in hospitals in Ghana.

Methods: A cohort study, was undertaken at the general surgical units of the Korle-Bu Teaching Hospital, from 1st July 2017 to 30th June 2018. There was a daily in-patient surveillance of all patients, who had a surgical procedure, post-operatively for SSIs. Post discharge surveillance included a patient-based telephone survey and a healthcare-personnel-based survey using a post discharge surgical wound card.

Results: Of the 2155 patients surveyed, there was 11% incidence of SSI with 50.4% were diagnosed in the post-discharge setting. Patients who developed an SSI, spent 9 days longer in hospital, had another procedure (in 3.8%) due to the SSI and had a relative mortality rate of 2.5.

Conclusion: There is a high incidence of SSI in Korle Bu Teaching Hospital with its associated high morbidity and mortality. Implementing a pre- and post-discharge surveillance system to control SSIs should be considered a high priority.



Dr. Antoinette Bediako-Bowan

The Impact of *Plasmodium* Parasite on the Placenta and Perinatal Outcome at Korle-Bu Teaching Hospital.

Mercy A. Nuamah¹, *Hanson G. Nuamah*^{2,3}, *Bethel Kwansa – Bentum*², *Patience B. Tetteh-Quarcoo*⁴, *John Ahenkorah*⁵, *Emmanuel Koranky*¹, *Magdalene Torto*¹, *Michael Ntummy*¹, and *Ali Samba*¹.

1. Department of Obstetrics and Gynecology, School of Medicine and Dentistry, College of Health Sciences, University of Ghana.
2. Department of Animal Biology and Conservation Science, College of Basic Science, University of Ghana
3. Department of Epidemiology and Disease Control, School of Public Health, College of Health Sciences, University of Ghana
4. Department of Microbiology, School of Biomedical and Allied Health Sciences, College of Health Sciences, University of Ghana
5. Department of Anatomy, School of Biomedical and Allied Health Sciences, College of Health Sciences, University of Ghana

Malaria is endemic in Ghana, and pregnant women are more susceptible than the general population to malaria. Several studies attribute this phenomenon to factors which include short term depression of cell-mediated immunity that allows fetal allograft retention and a depression of cellular immune response to *Plasmodium* antigens which interfere with immune system resistance to various infectious diseases. Sequestration of the parasites in the placenta is one of the major features of malaria infection during pregnancy. It is observed that, whether symptomatic or asymptomatic, the presence of *Plasmodium* parasites in a pregnant woman's body would have negative impact on her own health and that of her fetus. Our preliminary data shows 13.6% prevalence of malaria in pregnancy in spite of the promotion of the use of treated mosquito nets and intermittent preventive treatment with sulphadoxine-pyrimethamine during pregnancy.

This study seeks to investigate the impact of malaria in pregnancy on perinatal outcome and infant development. This will be a prospective cohort study screening available postpartum placental blood for *Plasmodium* parasites, and comparing morphological and histological differences



between the placentas of malarial infested patients and those without (controls). Malaria-infested patients (study group) are those with *Plasmodium* parasites in the placenta blood or those having test records confirming malaria during gestation. Morphological differences would be compared by performing a placenta examination whilst the histological differences would involve estimating the mean volume densities of terminal villi, syncytial knot, syncytial necrosis, fetal capillaries by using multilevel systematic random sampling technics (stereology). The perinatal outcome of the two groups will also be compared and the babies followed until 6th month of age.

The histology and the morphology of the postpartum placentas, the perinatal outcome and development of infants in the study group are expected to differ from that of the control group.

LANDMARK CASE

SEGAWA DISEASE (DOPA RESPONSIVE DYSTONIA)

First report from Ghana by
Prof Ebenezer Badoe,
Dept of Child Health, School of Medicine
and Dentistry, University of Ghana.

A 7 year old girl presented to the Tema General Hospital following a referral from one of the villages near the Cote D'ivoire/Ghana border.

Her complaints had started about two years earlier with difficulty walking and frequent falls. At presentation the main problem was the feet going into an equinovarus posture or flexion-inversion of both feet resulting in a gait disturbance. She could no longer attend school. A paediatrician evaluating her found her cognitive ability to be normal. He thought the reflexes were brisk at the knees. Otherwise the examination was unremarkable. A diagnosis of congenital muscular dystrophy or possible cerebral palsy was made and a telephone consultation was made to the author. Videos and pictures after consent were taken and sent to the author. After review of the images a single direct question was made as to whether there was a diurnal variation in symptoms, that is worsening in the evening and improving after sleep. The answer was positive and a diagnosis of Segawa disease was made and an instruction to give a trial of L-dopa at 25mg daily. There was a dramatic response within 24 hours of starting treatment and a week after consultation the parents were amazed at the change in quality of life. There was a complete restoration of mobility and she had now started school again without fears. The child beamed with smiles on her recovery.



Prof E Badoe
Head, Department of Child Health

Segawa disease also known as dopa responsive dystonia is a rare neurometabolic disorder characterized by childhood onset usually in mid childhood (5-15 years of age) with dystonia that shows a dramatic response to low doses of L-dopa. This may be associated with Parkinson's disease at an older age.

Dystonia is rare in childhood and consists of variably sustained twisting deformation of a limb or contiguous part of the body or trunk. Given the complexity of evaluating children with twisted body parts the Paediatrician did well to consult quickly a tertiary Centre via WhatsApp. Recognition facilitates proper treatment and dramatic improvement in the quality of life.

The striking feature of this disease is the fluctuation of dystonia in relation to the sleep-waking cycle. The child is usually normal on waking but after an hour or so the dystonic movements start and increase with time.

Prevalence from European studies is one in a million to one in 200,000. This is the first report from the Sub region to the best of my knowledge.

It is an autosomal dominant condition due to a mutation in the guanosine triphosphate (GTP) cyclohydrolase 1 gene, resulting in impaired biosynthesis of tetrahydrobiopterin the essential co factor for tyrosine hydroxylase which in turn is the rate limiting enzyme in catecholamine biosynthesis. The condition is often mistaken for stroke, cerebral palsy, localized limb trauma, malingering or conversion disorder. The diagnosis used to

depend on the demonstration of the dramatic response like above to L dopa but currently analysis of CSF neurotransmitters is able to show low concentrations of biopterin and neopterin.

Sequencing demonstrates a pathogenic mutation of the GTP cyclohydrolase 1 gene in up to 80% of cases.

This case demonstrates the power of telemedicine in this case using whatsapp to make a diagnosis across the miles , quick and appropriate referral and the subsequent dramatic improvement in the quality of life of a child.



Fig. 1. Twelve year old girl with Segawa disease (flexion inversion of both feet)



Fig. 2. Twelve year old girl after one week treatment with L-dopa.

Reference: Handbook of Pediatric Neurology Bale J, Bonkowsky Fillouc F Hedlund G Nielson D , Larsen P. Manson Publishing London 2012.

EDUCATION

BREAST CANCER AWARENESS CAMPAIGN 2018

By The Surgical Breast Unit, SMD/KBTH
Authors: Dr. F. Dedey, Dr. J. Nsaful and
Prof. JN. Clegg-Lamptey

Introduction

It has been proven that early detection and effective treatment of breast cancer save lives. Unfortunately, however, a significant number of Ghanaians present late to hospital and often choose to try unproven ineffective treatments. This may be due to ignorance or people simply choosing what to believe about breast cancer.

Breast cancer is the commonest cancer in Ghana and the incidence is on the increase. The International Agency for Research on Cancer (IARC) estimates that in Ghana it currently accounts for 20% of all cancers (34% of female cancers) and that 4,645 new cases will be diagnosed in 2018. It is the most prevalent cancer in the population. The IARC further estimate that there will be 1,871 deaths from breast cancer in Ghana in 2018. The high mortality in Ghana as in other low- and middle-income countries is mainly attributable to late diagnosis and ineffective treatment. When detected early, breast cancer can be treated effectively with very good outcomes: more than 90% 5 year survival for stage I (early) disease. Unfortunately, 5-year survival drops drastically to about 15% with stage IV (advanced/metastatic) disease.

State of Breast Cancer in Ghana

In Ghana, the majority of patients (52-85%) report with advanced breast cancer at first presentation. Further compounding this problem, is the fact that some patients, even when they have presented early, do not comply with recommended treatment and default to try ineffective treatment including herbs and prayer camps. The reasons for this late presentation and non-compliance with treatment are multifactorial and include poor understanding of the cause of breast cancer and its



Dr. Florence Dedey

*Department of Surgery, School of Medicine
and Dentistry*

treatment. Many myths and misconceptions surround breast cancer and its treatment such that even highly educated people have been known to present late and/ or refuse treatment due to some of these beliefs. Common among these beliefs are that breast cancer is a spiritual disease, can only be treated in hospital by removing the breast (mastectomy), and that mastectomy always results in death soon after. It is also believed that chemotherapy and radiotherapy are poisonous treatments which kill.

In spite of all the talk about breast cancer, there remains a serious problem of access to care for many Ghanaians. There are inadequate numbers of well trained professionals such as oncologists, surgeons, nurses, pathologists, radiologists and psychologists to mention a few. Beyond a few big cities these health personnel are

very limited, making effective cancer care for the vast majority of Ghanaians difficult. Added to this is the lack of sufficient diagnostic and treatment facilities, equipment and medications to give the needed care. Radiotherapy for instance is available only in Accra and Kumasi. Finally, there is also the issue of cost as breast cancer diagnosis and treatment is not cheap. Although the National Health Insurance Scheme covers breast cancer treatment, patients incur significant costs before the diagnosis is confirmed, and some aspects of treatment are not covered at all or only partially covered.

The October Breast Awareness campaign 2018

The month of October is set aside globally to increase breast cancer awareness. So, in October 2018, as in 2017, the Breast Unit of the Department of Surgery of the School of Medicine and Dentistry/ Korle Bu Teaching Hospital led a coalition of volunteer health workers, health facilities and organizations, in an awareness campaign to educate the public about breast cancer, tackling some of the misconceptions and practices that lead to late presentation. The Breast Unit took the initiative to organize breast cancer awareness activities rather than continue to be at the receiving end of uninformed women presenting with advanced disease.

The activities in 2018 included 2 symposia for health personnel and the general public, distribution of educational leaflets, educational talks and write ups in the print media as well as social media (WhatsApp, Facebook and Twitter). There were many media engagements on radio and television in English as well as in some Ghanaian languages to spread the message. Teams visited two malls in Accra every Saturday and Sunday and four markets (Mallam Atta, Kaneshie, Madina and Makola) where the unit offered free clinical breast examinations and taught self-breast examination to thousands of women. We were sometimes accompanied by breast cancer survivors who shared their stories

to encourage others. Our partner hospitals (increased from 16 in 2017 to 30 in 2018) also opened their doors to the public for breast education and free breast examinations. Some offered mammograms and breast ultrasound to patrons at subsidized rates.

Throughout the month we carried the message that early detection was key to a good outcome. We tackled some of the misconceptions in the messages we gave.

The Message

Early presentation is crucial. Our recommendation for 'screening' is as follows: Every woman from the age of 20 years should do monthly breast self-examination and report any change to hospital. Women are also to have annual clinical breast examination by a doctor or experienced nurse. From age 40, women are advised to have annual mammograms in addition to monthly breast self examination and annual clinical breast examinations.

Surgery is a very essential part of breast cancer treatment but does not always involve taking off the whole breast. Even when the whole breast has to be removed, that surely does not lead to the demise of the patient. Breast reconstructive surgery is available and a viable option after removal of the breast. Chemotherapy and radiotherapy are also very necessary adjuncts to breast cancer treatment and although they may cause some side effects (as do all medications), their benefits far outweigh the risks and should be used to ensure effective treatment. Breast cancer that has spread to distant organs or is metastatic, is what is responsible for most of the deaths associated with the disease, and not the treatments used.

Although medical treatment has been proven to be effective, many people choose to rather use alternative treatments which include herbal and natural remedies as well as faith-based methods which only result in the disease progressing to an

advanced stage. These alternative treatments promise cures that they cannot deliver and by the time the patient realizes this, it has become too late for medical treatment to cure.

Breast cancer can be cured, but only if clients report early before metastatic spread has occurred. Effective treatment is available in this country.

Acknowledgements and Conclusion

The unit is grateful for the support of our numerous partners who joined us for this important outreach. We are most grateful to Fidelity Bank and Accra City Hotel our main sponsors, and the many other sponsors. z

It is hoped that this campaign will help improve the general knowledge and awareness about breast cancer, such that people will know and truly believe that early detection and effective treatment of breast cancer does save lives. This will ensure that patients report early to the appropriate health facilities when they notice any breast changes and be compliant with treatment that is prescribed. It is also expected that policy makers involved in the provision of healthcare will be encouraged to improve the accessibility of treatment as the true state of breast cancer is made clear.

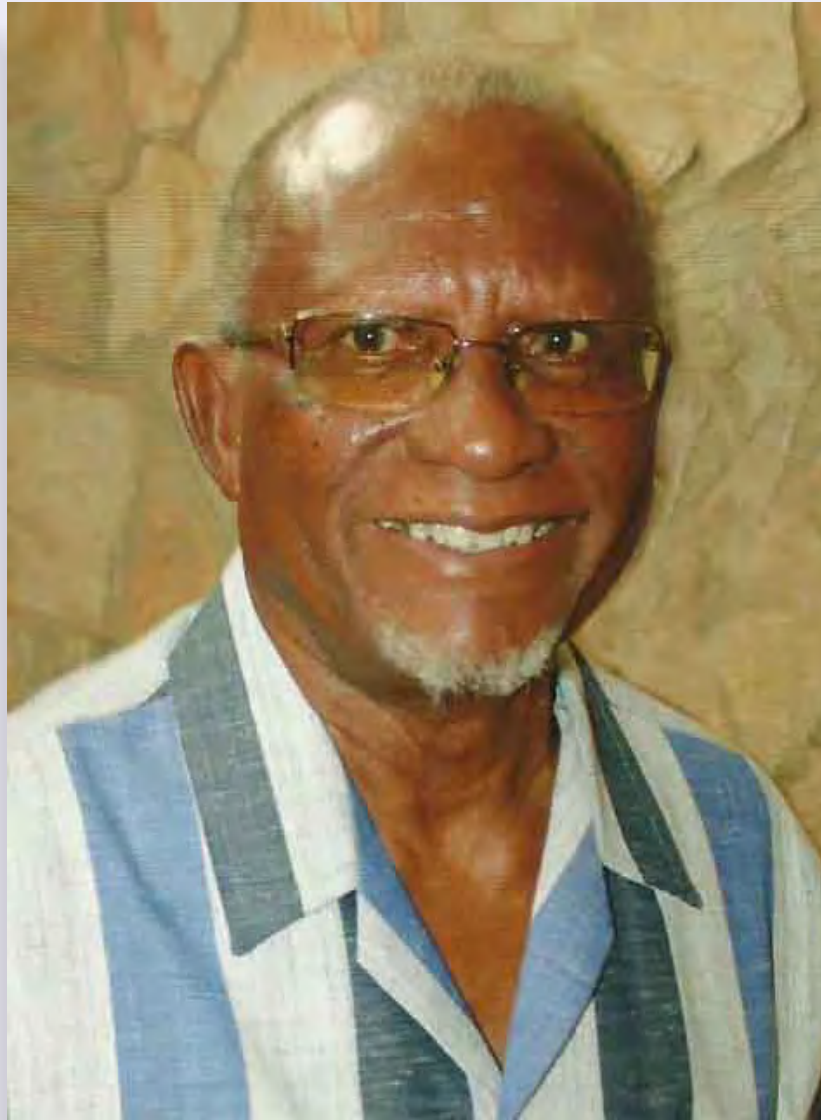
This effort needs to be sustained and spread out in a systematic well-coordinated way.

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4. Ohene-Yeboah M, Adjei E. Breast Cancer in Kumasi, Ghana. *Ghana Medical Journal*. 2012;46(1):8.

DISTINGUISHED PERSONALITY

PROFESSOR JULIUS A. A. MINGLE



Professor Julius A. A. Mingle had his basic education at the Presbyterian Infant, Junior and Middle (Salem) Schools in Osu Accra. He proceeded to Accra Academy in 1953 where he obtained the West African School Leaving Certificate in 1956. Prof. Mingle entered the Kwame Nkrumah University in Kumasi in 1960 and passed out with a B. Pharm degree in 1965. After a short period at the Korle Teaching Hospital as an intern, he joined the then National

Institute of Health of the Academy of Sciences as a Research Assistant in Microbiology in 1965 to 1966. He was awarded a commonwealth Scholarship for Post-graduate Studies at the Dalla Lana School of Public Health at University of Toronto Canada where he obtained a Diploma in Bacteriology in 1967. He proceeded to the University of Ottawa (Faculty of Medicine) for the MSc (1969) and PhD (1973) degrees in

Microbiology and Immunology with specialization in Virology. Whilst at the University of Ottawa, he took courses in Electron Microscopy at the University of Toronto and was awarded a Certificate in 1972.

Prof. Mingle returned to Ghana in 1973 and joined the University of Ghana Medical School as Lecturer in the Department of Microbiology. In 1974, he was awarded a Japanese Government Scholarship to study at the Institute of Microbial Disease (Biken) University of Osaka, Japan for a period of one year where he was awarded a certificate in Application of Electron Microscope in Diagnostic Microbiology. He returned to the University of Ghana Medical School in 1975 and rose through the rank to become a Full Professor in 1996.

Prof. Mingle has attended World Health Organization (WHO) courses on immunodiagnostic methods in tropical diseases at the Institute of Biochemistry, University of Lausanne, Switzerland and University of Nairobi, Kenya in 1976 and 1990 respectively.

In 1983, Prof. Mingle attended another World Health Organization course on Quality Control of Vaccines at the State Institute for Drug Control, Sofia Bulgaria. In 1992, Prof. Mingle was at the Vanderbilt University, Nashville, Tennessee, United States of America for his Sabbatical Leave – as a Research Fellow and participated in research projects on development of HIV vaccines as well as novel approaches for delivery of viral vaccines. He has published on Alternative Methods for Administration of Measles and Polio Vaccines and has contributed a Section on Viral Vaccines in the United States Pharmacopeia (1998). Prof. Mingle has been a member of the National Certification Committee for Polio Virus

Eradication Initiative in Ghana and Chairman for the National Task Force for Laboratory Containment of Wild Polio Viruses since 2002. WHO in 2016 presented Prof. Mingle with a Plaque and a citation acknowledging his dedication and meritorious contribution to the Polio Eradication Initiative in Ghana.

Prof. Mingle was a founding member of the Noguchi Memorial Institute for Medical Research, Legon and from 1979 to 1991 was the Head of the Virology and EM Units. He also acted as the Director of the Institute from August 1988 to March 1990.

Prof. Mingle has served on many Boards and Committees in the Medical School, the University, Noguchi Memorial Institute for Medical Research and Ministry of Health, and has held many positions including Master of the Student's Hostel at University of Ghana Medical School (UGMS), Chairman, Laboratory Subcommittee on AIDS, member of the Technical Committee on AIDS, Member, Laboratory Advisory Committee of Ministry of Health, Member, Academic Board of University of Ghana, Principal Investigator (Burkitt's Tumor Project) UGMS, and Member, Research and Ethics Committee of UGMS.

Prof. Mingle's research interests include viral etiology of diarrhoeal and respiratory diseases, Rubella and Cytomegaloviruses in Childhood Deformities, Hepatitis B virus Infections in neonates and Post Transfusion Hepatitis, application of EM in diagnostic Retrovirology (HIV/AIDS) and Viral Oncology. He has over 50 publications to his credit.

Professor Mingle is married with three children and three grandchildren.

STUDENTS CORNER

COLLEGE OF HEALTH SCIENCES STUDENTS LEAD WASTE SEGREGATION INITIATIVE IN KORLE-BU

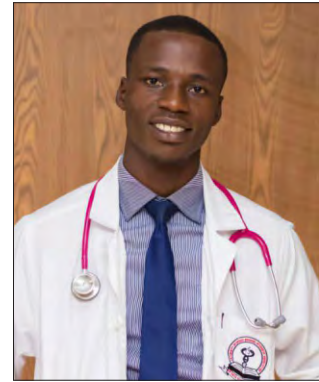
#BePartofTheSolution

Overflowing waste bins, huge piles of refuse, choked drains, powerful stench, cholera and other sanitation related disease outbreaks greet us where ever we find ourselves. The extremes of such are the devastating June 3rd, 2015 fire and flood disaster that claimed about 150 lives. These are but a few of the consequences and growing evidence of the failure of the traditional 'collecting-and-dumping' method of waste management!

Triggered into thinking about finding more sustainable solutions to problems that are hindering Africa's development, the 'June 3rd fire and flood disaster' brought a group of medical students together, (now called Craftsmen-Ghana), to start acting instead of joining the masses to complain.

They started a search for more environmentally-friendly waste management alternatives and settled on Waste Segregation at source and Recycling as the best alternative. They managed to get the support of the Accra Metropolitan Assembly, Environmental Protection Agency and Liberty Waste Services to start Waste Segregation at Source, here in Korle-Bu.

The Waste Segregation Project was launched on



Friday, October 5, 2018 at the College of Health Sciences Hostel (D-Block) as a pilot with four sets of colour-coded bins for **PLASTICS ONLY; PAPER ONLY; ORGANIC WASTES ONLY & RESIDUAL WASTES**. In attendance during the launch were Prof. Patrick Ayeh-Kumi (Provost, CHS), Prof. Solomon Ofori-Acquah (Dean, SBAHS), Prof. Kwamin (Vice Dean, SMD), Mad. Gloria Akan-yidi (Hostel Warden), a representative of the Minister of Sanitation & Water Resources, the General Manager of LWS, delegations from the A.M.A., and the student body. The invited guests were very impressed by the students' initiative and practicality pledged their support for the project.

In his speech, the President of Craftsmen-Ghana (the group leading the initiative), Mr. Theodore Amegashie, a final year medical student, thanked his team for their tireless efforts so far and appealed to all who were present for support in the form of bins, funds and other logistics to extend the initiative to the other hostels to see this environment-friendly alternative established. He also appealed to the student body to play their part to ensure the success of the exercise by segregating their wastes.



SEMINARS/TRAINING

DESIGN AND ANALYSIS OF CLINICAL RESEARCH

Dr Edmund T. Nartey Centre for Tropical Clinical Pharmacology and Therapeutics, University of Ghana School of Medicine and Dentistry

Dr Emelia Udofia Department of Community Health, School of Public Health, University of Ghana

Rev Dr Thomas Ndanu, Department of Community and Preventive Dentistry, University of Ghana School of Medicine and Dentistry

Upon a proposal from Dr Edmund Nartey supported by Dr Emelia Udofia, the SMD Research office organized a seminar series on the design and analysis of observational studies between July 2018 and November 2018. The first seminar was delivered by Dr Nartey, on the topic "An overview of Study Design in Epidemiology: A tool for Every Researcher". Dr Nartey, a Biochemist and an Epidemiologist with the Centre for Tropical Clinical Pharmacology and Therapeutics of the SMD, UG gave an overview of the various study designs in clinical research, and emphasized the need for researchers to properly design studies based on minimizing random error, reducing bias (systematic error) and controlling for confounding. Dr Nartey iterated the processes involved in ensuring that studies are able to meet criteria for both internal and external validity (generalizability). The second seminar series, also presented by Dr. Nartey, was held in August, 2018 on the topic "Principles in the design and analysis of Cohort

Studies: The basics and beyond". He remarked that appropriately designed cohort studies are rated highest among the observational studies in relation to causal inference between an exposure and an outcome. Further, Dr Nartey explained the various types of cohort studies and discussed the merits and limitations of each design type. Dr Nartey also took participants through a systematic workout of how to analyze cohort studies including the reporting of cumulative incidence and relative risk and also demonstrated how to construct Life-tables and perform Survival Analysis (time-to-event) using Kaplan-Meier Method and Cox Proportional Hazard Regression Modeling indicating the various assumptions in their application.

The 3rd in the seminar series (September 2018) was delivered by Dr Emelia Udofia, a clinician and a Senior Lecturer in the Department of Community Health, School of Public Health, UG. The topic presented was "Navigating Case-Control Studies: From Design to Analysis". The various types of case-control studies were explained to forum participants as well as how to design them to meet the study objectives. Dr Udofia demonstrated the use of case-control study design in various clinical research articles and distinguished between matched and unmatched studies during design and analysis. She further elaborated on the calculation of sample size using OpenEpi and the use of conditional logistic regression for inferential statistics. Scenarios in which the application of the case-control study design was

advantageous as well as its limitations in research were also highlighted. Printed copies of the STROBE checklist for case control studies were also made available at the forum.

The 4th in the seminar series held in October 2018 was delivered by Dr Nartey on the topic "In-depth design and analysis of cross-sectional studies in Health Research: Tools for Enhanced analysis" in which he discussed the use of cross-sectional study design in clinical research. Dr Nartey deliberated on the use of cross-sectional study design for either descriptive studies or analytical studies in which case the sample size calculation and the sampling methods differ and must be selected appropriately to suit the type of cross-sectional study design.

The 5th in the seminar series was delivered in November 2018 by Rev. Dr. Thomas Ndanu (Nutritionist and Biostatistician) of the Department of Community and Preventive Dentistry, UGSMD who spoke on the topic "Sample Size determination and Sampling Techniques: The backbone of Health Research". He explained the concept behind sample size

determination and took listeners through the various determinants in calculating minimum sample size for the various study designs. He emphasized the fact that the primary element in determining the sample size is the definition of the effect measure and the size to be detected at the end of the study (Primary and secondary outcomes) Rev, Dr Ndanu further iterated the fact that when the principles in minimum sample size determination are violated, then studies may be not powered enough to yield statistically significant outcomes to the research questions or test for the hypothesis in a study. He encouraged clinical researchers not to hesitate in consulting epidemiologist/biostatisticians when designing studies in order to yield the full benefits of data collected.

All fora were well attended by faculty and residents. In the closing remarks to end the series, Prof. Tettey, the SMD Research Coordinator expressed profound gratitude to the forum participants and thanked the presenters for their support during the seminar series. Participants at the forum were highly satisfied with the lectures and applauded the meticulous approach of the various speakers to the topics and in their delivery.



ANNOUNCEMENTS

PROFESSOR ANDREW ANTHONY ADJEI INDUCTED AS A FELLOW OF THE AFRICAN ACADEMY OF SCIENCES



Professor Adjei (centre) receiving award

Professor Andrew Anthony Adjei, Coordinator of the Vice Chancellor's Strategic Teams, Coordinator, Worldwide Universities Network, and Coordinator of the Australia-Africa Universities Network, was elected and inducted on 11th December, 2018 as a Fellow of The African Academy of Sciences (AAS) in Pretoria, South Africa. Fellows of The AAS are elected

based on achievements that include their scholarship, publication record, innovations, leadership roles and contribution to policy. Professor Adjei, a Fellow of the Ghana Academy of Arts and Sciences is a renowned immunologist among his peers, and his election as Fellow of AAS brings honour to the University of Ghana.

**PROPOSALS APPROVED BY THE ETHICAL AND PROTOCOL REVIEW COMMITTEE
- August to December 2018**

RESEARCH TITLE	PRINCIPAL INVESTIGATOR	DEPARTMENT
A text-based adherence game for young people living with HIV/AIDS	Professor Margaret Lartey	Medicine and Therapeutics
Endemicity of malaria and schistosomiasis co-infection in two selected communities in Ghana	Gabriel Akosah-Brempong	Medical Microbiology
Microbial drug resistance patterns of urinary tract infections among diabetes patients in Ghana.	Dickson Agyei Menkah	Medical Laboratory Sciences
Association between brain-derived neurotrophic factor, depression and quality sleep in diabetic patients in Sunyani Government Hospital	Thomas Gyamfi	Physiology
Natural cocoa intervention in pancreatic damage caused by chronic alcohol injection in rats	Francis Akanyibah Atim	Anatomy
Pregnancy outcomes of the elderly primigravida compared to the younger primigravida at the Korle-Bu Teaching Hospital	Dr. Kwaku Asah-Opoku	Obstetrics and Gynaecology
Isolation, characterization, microencapsulation and vitro evaluation of microencapsulated probiotics	Dr. Mansa Fredua Agyemang	Pharmaceutics and Microbiology
Immunophenotyping patterns of peripheral blood lymphocytes and their sub-sets in adults with uncomplicated P. Falciparum Malaria infection in the Volta Region of Ghana	Simon Aglona Ahiakonu	Medical Laboratory Sciences
Effect of oral ibuprofen premedication on Post Root Canal Treatment (RCT) Pain after single visit RCT of lower molar teeth utilizing either lidocaine or bupivacaine local anesthetic agents as inferior alveolar nerve block	Dr. Kofi Osei-Tutu	Restorative Dentistry
The relationship between Apolipoprotein A1 and B levels and coronary artery disease in adult Ghanaians	Benjamin Okyere	Medical Laboratory Sciences
Social determinants of health-seeking behaviour and the impact on referral patterns and clinical outcomes in Ghana patients with chronic autoimmune rheumatic disease	Dr. Maame Boatemaa Amissah-Arthur	Medicine and Therapeutics



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Published by
School of Medicine and Dentistry
Typesetting and design by Medical Illustration Unit, SMD

