

Kabarak University International Conference on Transforming Healthcare in Africa 2021

Thursday 21 October 2021 - Friday 22 October 2021

Book of Abstracts

Contents

Effect of mHealth Utilization on Access to Treatment by Teenagers Living with HIV/AIDS in Island Communities of Lake Victoria, Kenya	1
DETERMINANTS OF ADHERENCE TO STANDARD OPERATING PROCEDURES AMONG LABORATORY PERSONNEL IN BOMET COUNTY, KENYA	1
prevalence and correlates of pathological gambling disorder among undergraduate students in Kabarak University	2
Rendille, Borana and Burji mothers' experiences with food and their child-feeding practices in northern Kenya	3
Factors Influencing Time to Presentation, Diagnosis, and Treatment of patients with Esophageal Cancer at Moi teaching and Referral Hospital, Eldoret Kenya	3
DETERMINANT OF CAESAREAN SECTION RATE AMONG WOMEN OF 15-49 YEARS AT NAKURU LEVEL 5 HOSPITAL USING THE ROBSON CLASSIFICATION SYSTEM	4
relationship between umbilical cord practices and neonatal cord outcomes among neonates attending Nakuru level five county and referral hospital	5
EXPLORING REASONS FOR CERVICAL CANCER SCREENING UPTAKE BY FEMALE CLINICIANS AT AIC KIJABE HOSPITAL.	5
Skin Cancer Detection Using Image Processing	6
DETERMINANTS OF UTILIZATION OF EARLY INFANT HIV DIAGNOSIS SERVICES AT KERICHIO COUNTY REFERRAL HOSPITAL, KERICHIO COUNTY, KENYA	7
MATERNAL AND CARETAKERS' KNOWLEDGE ON HIV INFECTIONS, EXISTENCE AND BENEFITS OF EARLY INFANT DIAGNOSIS (EID) SERVICES AT KERICHIO COUNTY REFERRAL HOSPITAL, KERICHIO COUNTY, KENYA	7
EFFECTS OF VITAMIN A SUPPLEMENTATION IN HIV-INFECTED PATIENTS: A REVIEW	8
Role of Dietary Antioxidants in the Management of Human Immunodeficiency Virus	8
An Essay on Inadequacy of Time as a Barrier to Research Activities in Academic Pharmacy	9
Role of Biosafety and Biosecurity in Healthcare	10
Gaps in informed consent process among women who have undergone elective cesarean section at AIC Kijabe Hospital, Kiambu County. Kenya	10

An evaluation of the coping strategies of medical residents in Kenya	11
Harnessing technology for efficient TB diagnosis: Experience from Diagnostic Network Optimization Project in Kenya.	12
Health Information Management: Adoption and rollout of GeneXpert Lab Information Management System (GXLIMS) in Kenya	13

1

Effect of mHealth Utilization on Access to Treatment by Teenagers Living with HIV/AIDS in Island Communities of Lake Victoria, Kenya

Author: BILL OKAKA OLANG' P. A.¹

Co-authors: Florence Ondieki- Mwaura²; Maurice Sakwa.³

¹ PhD Scholar, Development Studies, Jomo Kenyatta University of Agriculture and Technology, Kenya

² Senior Lecturer, Department of Development Studies, School of Communication and Development Studies Jomo Kenyatta University of Agriculture and Technology (JKUAT)

³ Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

Exclusion from structural and biomedical interventions, concerns with privacy and confidentiality, location and hours of operation of health facilities, cost of services, coupled with retrogressive beliefs and attitudes of health providers, are barriers to seeking health services by teenagers living with HIV/AIDS. To bridge the gap, mHealth attempts to ensure care and treatment for teenagers. Despite scaling up of mHealth, over 500 pilot studies have not indicated evidence of impact for sustainability. Due to limited resources for technology in healthcare, discourse on HIV/AIDS epidemic now transcends beyond access and utilization to sustainability of healthcare. The study sought to determine the effect of mHealth utilization by teenagers living with HIV among island communities of Lake Victoria on access to treatment. It characterized mHealth access and determined knowledge management affecting utilization by teenagers living with HIV, as supported by Theory of Reasoned Action, Knowledge Management Process Model, and Technology Adoption Lifecycle Model. Anchored on cross-sectional study design, stratified sampling identified the psychosocial support groups of teenagers living with HIV. Of the study population of 409 in Ringiti, Remba, Rusinga, Mfangano and Mageta islands, 173 teenagers living with HIV as unit of analysis, and a control group made up of 30 percent of the sample were sampled. Five focus group discussions and key informant interviews of 10 and 3 were held in each Island. Results showed that Characterization of mHealth access and Knowledge Management had a positive and significant effect on access to treatment by teenagers living with HIV/AIDS in Island communities of Lake Victoria. The study recommended that government and organizations involved in HIV/AIDS related activities should adopt a culture of enhancing mHealth, to ensure improved access to treatment by teenagers living with HIV/AIDS in Island communities of Lake Victoria.

Key words:

Characterization of mHealth access, Knowledge Management, Teenagers, HIV/AIDS

2

DETERMINANTS OF ADHERENCE TO STANDARD OPERATING PROCEDURES AMONG LABORATORY PERSONNEL IN BOMET COUNTY, KENYA

Author: Sifora Fanta Chaleabo¹

¹ kabarak university

ABSTRACT

Laboratory errors are a major burden in health care systems. To decrease laboratory error and increase laboratory quality international health organizations such as World Health Organization developed laboratory quality management systems (QMS). One of the QMS essential (Document and records) contains Standard operating procedures (SOPs). SOPs are step-by-step instructions the laboratory personnel uses as a guide in performing laboratory procedures. Thus, adhering to SOPs

ensures consistency, accuracy, and quality of laboratory procedures thereby increasing the quality of laboratory data and reducing errors. However, studies in Kenya have shown low levels of percentage up on evaluating documents and records which means low adherence to SOPs. This study aims to identify the determinants of adherence to SOPs. A qualitative phenomenological study was conducted in two conveniently selected hospitals (Tenwek mission hospital and Longisa level four hospital) in Bomet County, Kenya. Two focused group discussion and four key informant interview was done. Based on the objectives, collected data were analyzed using thematic analysis and manual coding. The study found that determinants that affect adherence to SOPs are workload, inadequate number of staff, and work pressure from clinicians and patients. Factors that promote adherence to SOPs are appropriately written and available SOPs, educational training on SOPs, a conducive work environment, and the reward of laboratory personnel. Some identified key areas that needed intervention are problems arising with laboratory machine providing companies, non-compliance while performing laboratory tests, and misuse of emergency laboratory requests by clinicians. Further ideas to sustain interventions are competency tests of laboratory personnel and follow-up. This study reveals that determinants that affect adherence to SOPs are not limited to laboratory personnel but are a combination of leadership, environmental, educational, and technological quality improvements. Recommendations of this study include the collaboration of hospital administration staff, clinicians, and patients in laboratory quality improvement.

Key words:

Standard operating procedures, laboratory personnel,

3

prevalence and correlates of pathological gambling disorder among undergraduate students in Kabarak University

Author: Faith Ng'ang'a¹

¹ none

Background:

Gambling is making a decision, after assessing reward and risk, to place something of value at risk with the intention of gaining something of greater value (Williams & Potenza, 2010). Pathological gambling is the inability to resist the urge to gamble despite various attempts to stop. In pathological gambling, the brain releases dopamine when one comes across pleasurable stimuli. Continuous release of dopamine overtime causes your dopamine receptors to be less sensitive thus, there is need to gamble more often to get the same effect. Concerns have been raised that pathological gambling could reach epidemic proportions, especially among young people in the near future (O'Sullivan, J. Lees 2007). According to Guillou- Landreat et al., 2016, pathological gamblers are 3- 4 times more likely to commit suicide and are more prone to alcohol use compared to the general population.

Objectives:

Study conducted to determine the prevalence and correlates of pathological gambling disorder among undergraduate students at Kabarak university.

Method:

Multistage sampling method used. Students divided into strata based on their respective schools. simple random technique applied to pick participants. A hundred participants issued with questionnaires. Data analyzed using descriptive and inferential statistics.

Results:

74% of the population engage in gambling. 66% are male, who are single (83%) with no source of income (53%) with majority (25%) being from school of medicine. 57% of participants stated that they use alcohol and other substance of abuse, 21% gamble to finance use of these substances.

63% of participants engage in sports betting and 62% gamble for financial gain. 31% have had suicidal thoughts due to gambling. Three of the eight diagnostic criteria are met by more than half the population.

Conclusion:

Pathological gambling is prevalent among undergraduate students at Kabarak University. It is associated with use of substance of abuse and suicidal thoughts.

Key words:

pathological gambling disorder among Kabarak students

4

Rendille, Borana and Burji mothers' experiences with food and their child-feeding practices in northern Kenya

Authors: Patricia Kiprono¹; Jennifer Kaiser¹; Musita Caroline²; Margareta Lelea¹; Hussein Wario³; Brigitte Kaufmann¹

¹ *German Institute for Tropical and Subtropical Agriculture, and Transdisciplinary and Social-ecological Landuse Research (DITSL)*

² *Jomo Kenyatta University of Agriculture and Technology (JKUAT)*

³ *Center for Research and Development in Drylands (CRDD)*

Northern Kenya is inhabited by different ethnic groups who predominantly gain their livelihoods as pastoralists or agro-pastoralists. The varied geography includes arid lowlands and lush forested slopes with agricultural areas. In response to these conditions and due to differences between peri-urban and rural areas, food environments of mothers differ. This study aims at analyzing similarities and differences in child feeding practices among Rendille, Borana, and Burji mothers and contextualizing influencing factors based on place-specific, generational and cultural experiences. Using an explorative approach, qualitative data were collected from February to April 2021 using narrative and semi-structured interviews (10) as well as focus group discussions (6) with mothers from the three ethnic communities from different generations.

Inter-generational differences are pronounced in the pastoralist communities: whereas milk was the main diet of a child in the past generation, milk availability is nowadays low especially during dry seasons due to a variety of factors. In the agricultural communities, farming was formerly done organically but today it is perceived that pesticides are commonly used, and mothers are purchasing food from the markets with no control over its production. They are therefore concerned about the effects of pesticides on their children's health. Mothers living in peri-urban areas have more market access thus increased the availability of a variety of foods while those in rural areas depend on staple foods that are easy to store. Pastoral communities majorly consume animal source foods but differ in their local processing techniques and consumption. There is an inter-cultural exchange on foods among the ethnic communities which has strengthened their diet qualities.

This study shows that mothers' differing experiences with food environments, including cultural practices and beliefs, differ across ethnic groups with influences from livelihood and other factors, that then shape the choices that they make for feeding their own children.

Key words:

Northern Kenya, pastoralists, culture, child nutrition, child feeding practices, food environments.

5

Factors Influencing Time to Presentation, Diagnosis, and Treatment of patients with Esophageal Cancer at Moi teaching and Referral Hospital, Eldoret Kenya

Author: Tabitha Chepkemai¹

¹ *KABARAK UNIVERSITY*

Introduction: Esophageal Cancers are malignancies that develop in the tissue lining of the esophagus. Globally, esophageal cancer is ranked seventh commonest cancer and sixth cause of mortality. Kenya has an incidence of 17cases per 100,000 people, with 70-80% presenting for diagnosis at an advanced stage.

Objectives: To describe the factors influencing the time of presentation, diagnosis, and treatment of patients with esophageal cancer at Moi Teaching and Referral Hospital (MTRH)

Methodology: A Cross-sectional study design was used. The study population was patients with esophageal cancer seeking medical and surgical treatment at MTRH in March 2020 to January 2021. Data was collected from 104 participants using semi-structured questionnaires. Statistical analysis was done using R-4.1.0-win where descriptive statistics and Logistic regression were used to determine percentages and the associations between Factors and time of presentation and diagnosis of patients with esophageal cancer respectively.

Results: The mean age of participants was 57.2 years, 65.4% were males, and 7.8% were illiterate, and 39.2% didn't have health insurance. Majority 79.2% were diagnosed with stage III and IV. Patients with Monthly income above 20,000KSH ($p=0.020$) were more likely to present early. Being widowed ($P=0.019$), and having no medical insurance ($p=0.0236$) were more likely to delay in diagnosis.

Conclusion: Income status, being widowed and without medical insurance are major factors that influence the time of presentation and diagnosis of patients with esophageal cancer at MTRH.

Recommendation: Financial constraint is a huge hindrance to early diagnosis of esophageal cancer, a precursor to better treatment outcomes. The government should therefore, put in place sustainable strategies that enable cancer diagnosis and treatment accessible and affordable.

Key words:

esophageal cancers, cancer stage , presentation, diagnosis, treatment

6

DETERMINANT OF CAESAREAN SECTION RATE AMONG WOMEN OF 15-49 YEARS AT NAKURU LEVEL 5 HOSPITAL USING THE ROBSON CLASSIFICATION SYSTEM

Authors: doris Biwott¹; Emmaculate TANUI¹

¹ Kabarak University

Abstract

Background: Caesarean section is a lifesaving operation that has significant effect on the outcomes of maternal and perinatal health. While the World Health Organisation considers a CS rate of 10–15% to be optimal, there is significant increase in CS especially in low resourced setting despite the persistent inequalities in access to CS. To determine, track and audit caesarean section rates and groups, the Robson classification system that classifies CS into 10 groups based on parity, the onset of labour, foetal presentation, gestational age, and number of foetuses was introduced. Therefore, we assessed the determinants of caesarean section rate among women 15–49 years at Nakuru Level 5 Hospital.

Methods: We reviewed systematically sampled medical records of women who had delivered via caesarean section at the Nakuru Level 5 Hospital between 1 June and 31 December 2019. Data on sociodemographic, socioeconomic, and obstetric characteristics, previous caesarean section and indication for caesarean section were collected using data extraction tool and analysed using frequencies and percentages.

Results: The overall caesarean section rate was at 27.9% with two-thirds of the caesarean sections attributed to groups 1 ($n=40$, 12.3%), 3 ($n=37$, 11.3%), 5 ($n=78$, 24.0%) and 7 ($n=33$, 10.2%) as per the Robson 10 classification system

Conclusion: The rate of CS in the study setting is twice the WHO recommended rate with previous CS being the main cause of CS. There is a need to support implementation of instrumental delivery, trial of labour after CS and training of staff to decrease CS rate especially among low-risk groups (Robson groups 1–4). Focused antenatal care should also be promoted to identify pre-existing health conditions and detect early complications arising during pregnancy.

Keywords: Nakuru, caesarean section, Robson classification system, Kenya, determinants

Key words:

Caesarean section, Robson Classification system, determinants

7

relationship between umbilical cord practices and neonatal cord outcomes among neonates attending Nakuru level five county and referral hospital

Author: judy kithaka^{None}

ABSTRACT

Background: Globally neonatal mortality rate (NMR) stands at 22 per 1000 live births, 98% of these deaths are from developing countries. NMR in Kenya stands at 22/1000 live births and in Nakuru County and Referral Hospital NMR stands at 29.1/1000 live births. In developing world, Umbilical infections contributes significantly to the etiology of neonatal mortality and morbidity with incidence rates as high as 55-197 per 1000 live births.

Objectives: to determine the relationship between umbilical cord practices and neonatal cord outcomes

Methodology: A hospital based unmatched case control study design was used to compare umbilical cord care practices and the cord outcome. Probability outcomes relative to the predictors were predicted using logistic regression.

Results: The prevalence of adverse cord outcomes was 56.60%. Of these 14.72% were umbilical granuloma, 17.07% were delayed cord separation and 29.52% were omphalitis. cord care using chlorhexidine digluconate ($p < 0.0001$), Bathing the neonate ($p = 0.008$), Use of sponge bath as a method of bathing the neonate ($p = 0.012$) and health professional being the health education provider ($p = 0.046$) were found to be protective of an adverse cord outcome. In multivariable analysis the Wald test was used for unadjusted and adjusted analysis to test hypothesis of homogeneity of odds ratios, primiparity (OR=1.66), use of other methods for cord care (OR=11.81), bathing by immersion (OR=1.57) remained key risk factors for an adverse cord outcome. Subset selection and model fit statistics was done. The final model consists of parity, cultural beliefs, cord care methods, bathing method.

Conclusion: Prevalence of adverse cord outcomes of umbilical granuloma, delayed cord separation and omphalitis was high compared to the global prevalence which indicates it's a major public health concern.

Recommendations: more sensitization of the health care workers on adoption of WHO policy and strengthening of the practice of home based post natal visits by community health workers

Key words:

umbilical cord care, cord care practices, omphalitis, delayed cord separation, umbilical granuloma

8

EXPLORING REASONS FOR CERVICAL CANCER SCREENING UPTAKE BY FEMALE CLINICIANS AT AIC KIJABE HOSPITAL.

Author: Belyse Arakaza¹

Co-authors: Peter Halestrap²; Stephanie Onguka³

¹ Family Medicine Registrar

² Lecturer Family Medicine Department – Kabarak University

³ Kabarak University School of Medicine

Introduction

Worldwide, cervical cancer comes fourth in terms of incidence. In Kenya, it is the leading cause of cancer-related mortality among women of reproductive age, despite being preventable through regular screening and early treatment of abnormal lesions. Local data suggest that the uptake of cervical cancer screening is low among the general population. Clinicians play a vital role in the fight against cervical cancer by teaching, but most importantly, being role models in screening services uptake.

Objectives

Exploring reasons for personal screening uptake and recommendations to increase screening uptake among female clinicians at AIC Kijabe Hospital.

Methodology

Qualitative, phenomenological study. Data was collected through in-depth interviews. Data analysis was done using thematic analysis.

Results

13 of the 22 participants had done cervical cancer screening at least once in their lives, however, only 38.4% of them had an updated screening. Personal screening uptake was mostly motivated by the knowledge of risk factors. Awareness campaigns were the most shared opportunity that led to an uptake of a cervical cancer screening test. On the other hand, discomfort from the screening process was a major barrier to screening. The most common recommendation given to improve clinicians' screening uptake was to improve the screening process, specifically the use of plastic speculums. Another popular recommendation to increase uptake of screening was to increase awareness, and frequent reminders to enable them to regularly use screening services for themselves.

Conclusion

Cervical cancer screening uptake is still low among an influential population in the fight against cervical cancer. Raising awareness among female clinicians and improving the screening process might improve screening uptake among female clinicians at AIC Kijabe Hospital.

Recommendations

Further studies are needed, to assess if increased screening uptake among female clinicians will reflect an increase in screening uptake among patients attending AIC Kijabe Hospital.

Key words:

Keywords: Cervical cancer, screening uptake, female clinicians, Kijabe Hospital.

9

Skin Cancer Detection Using Image Processing

Author: louis hugo^{None}

1.1 BACKGROUND STUDY

Skin Cancer is found in various types such as Melanoma, Basal and Squamous cell Carcinoma, among which Melanoma is the most common and unpredictable. Detection of Melanoma cancer in early stage can be helpful so as to treat it and prevent it from spreading to other parts of the body. Technology has and is advancing at a very high rate. Originally phones were only limited to phones calls only but in today's world we have smartphones and laptops that have cameras embedded in them so as to enables us take pictures and record videos. We can exploit this technology to our advantage and through Artificial Intelligence, solve real world problems. Machine learning tools such as computer vision can play an important role in Medical Image Diagnosis. The idea is to use computer vision and image processing to analyze and develop a simple Convolutionary neural network that will be trained, tested and deployed .

Currently the formal diagnosis for skin cancer detection is Biopsy method. A biopsy is a method to remove a piece of tissue or a sample of cells from patient body . However, it is an uncomfortable and painful method since a piece of tissue from the patient's body has to be extracted and taken for analysis. It is time consuming for patients and doctors because of the testing time. It is expensive

and in countries like Kenya few hospitals have the capacity to offer it. MY proposed method will much more efficient. No tissue will be taken from the skin meaning there won't be any form of skin damage or pain, it will not be expensive since you can do the diagnosis right from the comfort of your device. Results will not take forever and this will be the perfect alternative to biopsy.

Key words:

skin cancer Biopsy method CNN machine learning

10

DETERMINANTS OF UTILIZATION OF EARLY INFANT HIV DIAGNOSIS SERVICES AT KERICHO COUNTY REFERRAL HOSPITAL, KERICHO COUNTY, KENYA

Authors: Wesley Bor¹; Hellen Ngeno¹

¹ Kabarak University

HIV and AIDS has become a health challenge globally. It is a major cause of infant and childhood morbidity and mortality in Africa. This research was a cross sectional analytical survey to assess the determinants of utilization of Early Infant Diagnosis (EID) at Kericho County Referral Hospital (KCRH). Data was collected using pretested questionnaires, administered to the postnatal HIV positive mothers and or caretakers of HIV exposed children. Data was analysed using SPSS software version 18.0. Data was analysed using Chi-square and Logistic Regression analysis. Of the 254 respondents, 201 (79.1%) were biological mothers to the children, the rest were caretakers. The children were aged between 1 and 18 months with a mean age of 9.62 months. Majority of the respondents had adequate knowledge of adult HIV infection with regard to what HIV is, routes of transmission, diagnosis and treatment. Knowledge of paediatric HIV infection was however inadequate with only 132 (52%) respondents who knew the approximate rate of HIV transmission from mother to child and 130 (51.2%) who knew about the availability of paediatric Antiretroviral (ARV) drugs. Both adult and paediatric HIV knowledge was better with increasing level of education. The younger respondents were also more knowledgeable than the older ones. The children who had utilized EID were only 75 (29.5%). The significant determinants of EID utilization included: the level of education ($p=0.002$), the place of delivery ($p<0.01$), the age of the respondent ($p=0.008$), the distance to the nearest healthcare facility that offered EID ($p=0.004$) among others. The most significant determinants of EID utilization were the level of education, accessibility and the age of the respondents. In conclusion, EID utilization is still low in Kericho County. This study recommends that improving maternal education would improve EID uptake.

Key words:

UTILIZATION, EID, HIV, HIV TESTING

11

MATERNAL AND CARETAKERS' KNOWLEDGE ON HIV INFECTIONS, EXISTENCE AND BENEFITS OF EARLY INFANT DIAGNOSIS (EID) SERVICES AT KERICHO COUNTY REFERRAL HOSPITAL, KERICHO COUNTY, KENYA

Authors: Wesley Bor¹; Hellen Ngeno¹

¹ Kabarak University

HIV and AIDS has become a health challenge globally. This research was a cross sectional analytical survey to assess knowledge on existence and benefits of Early Infant Diagnosis (EID) at Kericho County Referral Hospital (KCRH). Data was collected using pretested questionnaires which were administered to the postnatal mothers/caretakers of HIV exposed children. Of the 254 respondents, 201 (79.1%) were biological mothers to the children, the rest were caretakers. The children were aged between 1 and 18 months with a mean age of 9.62 months. Majority of the respondents had adequate knowledge of adult HIV infection with regard to what HIV is, routes of transmission, diagnosis and treatment. Knowledge of paediatric HIV infection was however inadequate with only 132 (52%) respondents who knew the approximate rate of HIV transmission from mother to child and 130 (51.2%) who knew about the availability of paediatric Antiretroviral (ARV) drugs. Both adult and paediatric HIV knowledge was better with increasing level of education. The younger respondents were also more knowledgeable than the older ones. Those who knew about existence of EID were 233 (91%) of whom 119 (about 50%) knew about it in the antenatal period. Knowledge of availability of EID was high with 207 (81.5%) respondents stating that they knew at least one healthcare facility that offered the services. There was also adequate knowledge on the benefits of EID with 236 (92.9%) who knew and cited the benefits. The children who had utilized EID were only 75 (29.5%). In conclusion, EID knowledge is still poor in Kericho County and it influences utilization of these services. This study recommends that improving maternal education would improve EID uptake.

Key words:

MATERNAL, CAREGIVE, KNOWLEDGE, HIV, HIV TESTING

12

EFFECTS OF VITAMIN A SUPPLEMENTATION IN HIV-INFECTED PATIENTS: A REVIEW

Authors: Wesley Bor¹; Phyllis Waruguru¹

¹ *Kabarak University*

Background: Vitamin A deficiency is associated with a higher Human Immunodeficiency Virus (HIV) viral load. Currently Anti-Retroviral Therapy (ART) is the main strategy that is used in suppressing viral load. However, prevalence of HIV positive patients with detectable viral load is high. Vitamin A has received significant attention as a therapeutic agent for the treatment of numerous immune compromised conditions. This is attributed to its ability to boost the immunity as a result of its antioxidant characteristics.

Objective: To establish if vitamin A supplementation could be used as a therapeutic micronutrient in the management of HIV.

Study selection: Based on defined key words a search was carried out on PUBMED to retrieve all publications on Vitamin A supplementation and HIV. 26 studies that met the search criteria were retrieved and the required data obtained.

Data synthesis: Six unique studies that met the study criteria were included. The publications were analysed to establish whether Vitamin A supplementation was effective in the management of HIV. **Results:** The articles reviewed indicated that Vitamin A supplementation either led to improved immunity or its deficiency resulted to increased HIV viral load.

Conclusion: Vitamin A supplementation is an affordable and effective way to retard HIV progression by lowering the viral load and fighting opportunistic infections. Considering the high prevalence of detectable HIV viral load in this time and era of ART medication, Vitamin A supplementation should be given a significant consideration as a potential intervention strategy for suppressing HIV viral load along with the ART medication.

Key words:

HIV, Vitamin A, Supplementation

13

Role of Dietary Antioxidants in the Management of Human Immunodeficiency Virus

Authors: Wesley Bor¹; Phyllis Waruguru¹

¹ Kabarak University

Acquired Immunodeficiency Syndrome (AIDS) caused by Human Immunodeficiency Virus (HIV) is currently the sixth-biggest cause of death world-wide, accounting for 2.9%. There is also increased hidden hunger among the AIDS patients and a high percentage with unsuppressed viral load despite the various interventions put in place to suppress the virus. Dietary antioxidants including Vitamin A, Vitamin C, Vitamin E, Vitamin K, Zinc and selenium have recently received significant attention as therapeutic agents for the treatment of several immune compromised conditions. This is attributed to their ability to scavenging excess Reactive Oxygen Species (ROS) to maintain normal physiological conditions. This study therefore, seek to find out if dietary antioxidants could be used along with ARVs to suppress HIV viral load. Two scientific databases (PubMed, Scopus) were searched between 1st – 28th February, 2021 using Dietary antioxidants, HIV and AIDS as the key words. Articles published in highly refereed and peer reviewed journals were selected. In total 15 articles were retrieved however, 7 Articles were rejected since they did not discuss the dietary antioxidant in relation to treatment of HIV, or statistical analysis used were not suitable, or the article was a review of other publications. The articles reviewed indicated that AIDS patients have a deficiency of micronutrients contributing to hidden hunger and supplementation of the micronutrients contributes to reduced morbidity and mortality among the patients. Studies indicate that Vitamin A, Vitamin E and zinc are important dietary antioxidants in boosting immunity. In conclusion, Dietary antioxidants are a safe and effective way to scale down morbidity and mortality related to AIDs and therefore, they should be given a significant consideration as a potential strategy for suppressing the viral load alongside antiretroviral therapy

Key words:

DIETARY, ANTIOXIDANTS, HIV, MANAGEMENT

14

An Essay on Inadequacy of Time as a Barrier to Research Activities in Academic Pharmacy

Author: kelvin manyega¹

¹ Kabarak University

Academic Pharmacy refers to the field of Pharmacy dedicated to educate, train, assess and develop pharmacy students. The competence of Pharmacists lay at the feet of Academic Pharmacists, a function that directly and positively impacts public health. Academic Pharmacists are often expected to fulfil the roles of teaching (didactic and experiential), conducting research and offering university or community service. This essay focuses on the research role of Academic Pharmacy highlighting how scarcity of time impacts faculty research output and suggesting potential solutions. By virtue of having multiple competing responsibilities faculty members are often unable to achieve a balance that makes it possible to consistently produce scholarly work. Literature demonstrates an inverse relationship between a heavy teaching or clinical workload with scholarly output among Academic Pharmacy Practitioners. Additionally, a faculty's evaluation for career progression is often tied to his/her research productivity. With little time guaranteed to conduct research, career stagnation, frustration and high faculty turnover is imminent. Variation in institutional values and priorities contributes to disparities in research output of faculty in different Pharmacy Schools. The availability of resources, for example revenue streams, for institutions underlie the variations in values and priorities and hence research output. Faculty shortage further exacerbates time inadequacy for faculty research initiatives. In the background of a high demand of the Pharmacy degree Schools

of Pharmacy have to contend with larger class sizes and increased teaching workloads. To facilitate optimal faculty scholarly output there is a need to find a match between institutional goals and resource allocation. This should include career progression assessment metrics that take into account the time that is available for scholarship and the corresponding requirement for promotions. Furthermore, School of Pharmacy and university administrators are urged to support scholarship activity by defining and offering protected time for scholarship activities.

Key words:

research output, faculty, pharmacy education

15

Role of Biosafety and Biosecurity in Healthcare

Author: Kiiyukia Ciira¹

¹ *Biorisk Management Association of Kenya (BMAK)*

According to WHO “biosafety is a strategic and integrated approach to analyzing and managing relevant risks to human, animal and plant life and health and associated risks for the environment. It is based on recognition of the critical linkages between sectors and the potential for hazards to move within and between sectors, with system-wide consequences”. Biosafety is therefore a combination of practices, procedures, and equipment that are put in place to protect all healthcare workers, the public, and the environment from the infectious agents and or their toxins. The tragedy of SARS-CoV-2 and the disease it causes, COVID-19, is the current humankind greatest scare and to combat it, application of biosafety and biosecurity principles is paramount in ensuring the safety of healthcare workers. Biosafety put emphasis on the agent containment principles, approved technologies and practices that are implemented to prevent the unintentional exposure to the pathogenic agent and toxins, or their accidental release to the environment. Ensuring a quality and biologically safe work environment promotes good and effective delivery of laboratory and clinical services for patients. When biosafety guidelines are followed during complex laboratory procedures, staff can work with a certain level of confidence that they will not contract any infection or disease. The spread of infectious agents from clinical and medical laboratories to other healthcare workers, patients, and the community is preventable by applying appropriate biosafety practices. Training on biosafety and biosecurity to all healthcare workers is vital, either as a focused training program or as part of the medical training curriculum. Laboratory managers, section heads, and supervisors should also be trained in biosafety, including topics covering bio-risk management and biosafety program implementation. Proper handling and disposal of medical wastes is necessary to prevent disease transmission as more often than not these medical waste is contaminated and therefore hazardous.

Key words:

Biosafety, Biosecurity

16

Gaps in informed consent process among women who have undergone elective cesarean section at AIC Kijabe Hospital, Kiambu County. Kenya

Author: Bramwel Simiyu¹

¹ *Resident Family Medicine*

Authors: Dr Bramwel Wekesa, Mary Adam MD, Eli Horn MD

Introduction

Informed consent for elective cesarean section is both a legal and an ethical requirement. Its process includes the presence of the patient's decision-making capacity, provision of adequate information and voluntary consenting.

Missing any of the following denotes gap(s) in informed consent: name and nature of surgery, indications, benefits, risks and alternatives including no treatment, anaesthesia and analgesia options available, implications of this surgery on future pregnancies, extra procedure(s) deemed necessary intraoperatively and the patient's right to accept, refuse or defer surgery.

Objective

To describe the elements of informed consent that are most frequently addressed or missed when obtaining consent for elective cesarean section at AIC Kijabe Hospital.

Methodology

A cross-sectional study using a structured questionnaire was administered to 137 women was sampled via systematic random sampling technique in AIC Kijabe hospital's postnatal ward after consenting. Information gaps were measured by frequencies while process gaps were measured by time spent on obtaining consent and whether patients' concerns were addressed.

Results

All elements of informed consent were well addressed except benefits of cesarean section, post-surgery briefing and implications on future pregnancies, addressed in only 41.2%, 47% 29.4% cases respectively. Without fail consent form was signed but the informed consent process was not documented. Patients' concerns were addressed invariably. The average time spent on obtaining consent was eight minutes.

Conclusion

Documentation of the informed consent process, benefits of the elective cesarean section, post-surgery briefing and implications of this surgery on future pregnancies were not well addressed in the informed consent process.

Recommendations

Further research is required to decipher why the benefits of caesarean section, implications of the surgery on future pregnancies and delivery, post-surgery briefing and documentation of the informed consent process are inadequately addressed.

Keywords: Informed consent, elective cesarean section, gaps.

Key words:

informed consent, Gaps, elective cesarean section

18

An evaluation of the coping strategies of medical residents in Kenya

Author: Amy Akim^{None}

Introduction

Worldwide, coping has been demonstrated as the key determinant between good and poor mental health among medical residents. Nevertheless, no study has assessed the coping strategies of medical residents in Kenya.

Objective

To evaluate the coping strategies of medical residents in Kenya.

Methodology

This was a quantitative, cross-sectional survey among medical residents in Kenya. The BRIEF Cope was used to collect data which was analyzed using excel into means and association was demonstrated using student t-test.

Results

A total of 139 respondents filled the questionnaire. Adaptive (mean 61.59, SD 15.33) as opposed

to maladaptive coping strategies (mean 48.10, SD 12.70) were more commonly used. The most commonly used adaptive coping strategies were acceptance (mean 69.96, SD 22.41), planning (mean 69.15, SD 22.84), positive reframing (mean 67.81, SD 22.42) and religion (mean 62.40, SD 26.96). The most commonly used maladaptive coping strategies were self distraction (mean 61.33, SD 21.38), venting (mean 55.04, SD 19.25) and self-blame (mean 52.52, SD 21.82). Overall, females had significantly higher scores for both adaptive (females, mean 41.19, SD 10.02; males, mean 37.63, SD 9.31; p-value = 0.011) and maladaptive (females, mean 24.50, SD 6.68; males, mean 22.07, SD 5.45; p-value = 0.020) coping strategies compared to males.

Conclusion(s)

Medical residents in Kenya utilized adaptive than maladaptive coping strategies more commonly. The most commonly used adaptive coping strategies were acceptance, planning, positive reframing and religion while the most commonly used maladaptive coping strategies were self distraction, venting and self-blame. Females utilized both coping strategies significantly more than male medical residents.

Recommendation(s)

Postgraduate training institutions should encourage medical residents in Kenya towards adaptive coping strategies. Further qualitative studies are needed to explain how medical residents in Kenya cope to the stresses they face.

Key words:

Coping strategies, Medical residents Postgraduate training Kenya, Burnout, Mental health

19

Harnessing technology for efficient TB diagnosis: Experience from Diagnostic Network Optimization Project in Kenya.

Authors: Jeremiah Okari¹; Josephat Tonui²

¹ *National Tuberculosis Leprosy & Lung Disease Program*

² *Kabarak University*

JJeremiah Okari^{1*}, 1, 2Josephat Tonui, 1Eunice Omesa, 1Richard Kiplimo, 1Newton Omale, 1Drusilla Nyaboke, 1Elvis Muriithi, 1Stephen Macharia, & NTLTP team, Kenya

1 National Tuberculosis Leprosy & Lung Disease Program

2 Department of Biomedical Sciences, School of Medicine and Health Sciences, Kabarak University, Nakuru, Kenya.

Diagnostic network optimization (DNO) aims to redesign the diagnostic network configuration in order to increase access, maximize impact and to enhance efficiencies. It seeks to align testing demand and available capacity in the most cost-effective manner. This is achieved through laying out of optimal instruments mix, appropriate locations for placement and design of referral network linkages for the entire revised network. The DNO project in Kenya was carried out with support from Bill & Melinda Gates Foundation USAID (TBARC II), CHAI, FIND & Llamasoft. A situational analysis in the country showed that 42% of people with respiratory symptoms initially seek care at private clinics, laboratories and retail chemists. Majority of the TB cases who seek care, were not diagnosed at initial health facility (prev. survey 2016). Majority of TB diagnosis was made after 4 to 5 hospital visits and 21% of bacteriologically confirmed TB cases were not notified (Initial loss to follow up). Leakages were noted since TB diagnosis was mostly done in the Chest/ TB Clinic. As of 2017, there was low Xpert utilization, limited access to Dx services with no sample referral network. Based on the available evidence, a prioritized and patient-centered National Strategic Plan was developed to meet End TB targets and diagnostic network optimization was embedded and aligned with NTP priorities and targets for case detection. Sufficient network capacity exists to meet current TB demand and is largely well placed. SRS will enable scale up of testing to find the missing cases. Network efficiencies increase, through the implementation of integrated supporting systems.

Key words:

Tuberculosis, Diagnosis, GeneXpert, Network, Optimization

20

Health Information Management: Adoption and rollout of GeneXpert Lab Information Management System (GXLIMS) in Kenya

Authors: Jeremiah Okari¹; Josephat Tonui²; Richard Kiplimo³; Elvis Muriithi⁴; Kenya NTLP team^{None}

¹ NTLP, MOH

² Department of Biomedical Sciences, School Medicine & Health Sciences Kabarak University & NTLP

³ National Tuberculosis, Leprosy & Lung Disease Program (NTLD-P).

⁴ National Tuberculosis, Leprosy & Lung Disease Program (NTLD-P)

The DNTLD Program implements the use of GeneXpert for TB diagnosis at the facility level. For purposes of availing case based data and reports, the TB program developed GxLIMS in 2013 and fully rolled out in 2014. Key objectives for adoption of GXLIMS were to increase Lab efficiency and effectiveness through automation of data management and retrieval, generation analytics and reports, result dispatch, better commodity management as well as monitoring and evaluation of performance indicators for GeneXpert sites. Currently, 193 GeneXpert machines are able to report via this system. Within the 47 counties, training has been done for at least five lab staff and a super user who supports routine preventive maintenance in each county. The system is hosted externally in the cloud management. For result upload, GxLIMS relies on another system known as GxAlert that pulls results from each machine and pushes it to GxLIMS. Currently, funding is being sought to upgrade to the new version of GxAlert (Aspect) which will enable reporting for all the Assays (MTBRIF Ultra, HIV-EID & VL, True Nat and SARS-COV 2) within the GeneXpert machine. Other diagnostic tools to get support from this LMIS reporting tool will be True Nat and MGIT in results transmission. The system has revolutionized the diagnosis and management of TB in the Country by enabling relay of critical information.

Key words:

Tuberculosis, Diagnosis, GeneXpert, Network, Optimization