



MakCHS-UMU Brain Health PROGRAM



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Message from the Program Director

Professor Mark Kaddu Mukasa

Dear Reader

Greetings from the Brain Health project!!!

We welcome you to this edition of our newsletter in which we share highlights of the Brain Health Training Program and other related activities. It focusses on improving brain health research and building a brain health research pipeline for sustainable neurology development and health care.

Why is this so important? It is to ultimately equip students and junior faculty with adequate research skills necessary to search for and comprehend primary information sources that impact and advance neurology patient care. This guides them to knowledge advancement, problem solving, guiding and preparing future healthcare generations to come and contributing to equitable allocation

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of resources for health care.

Therefore, the Brain Health Training Program offers some solutions through a combination of methods, including didactic courses that specifically cover research methodology, manuscript writing, research mentorship etc. that go beyond the usual content taught. It also prepares the trainees to communicate their research findings through regular mentorship meetings, both local and international conferences/meetings.

In this newsletter, we highlight these opportunities through various articles by our trainees as they all aim to improve brain health-related knowledge in their own corner of the world.

This, as they inspire and guide others with similar interests towards effective development of better neurology research in Uganda and sub-Saharan Africa; forge strong links between their mentors and advance their careers in brain health.

We hope these and future work can continue to improve neuroscience education for the betterment of neurology health care and research around the globe.

Enjoy your reading!

Mark Kaddumukasa

STROKE CHARACTERISTICS AND 30-DAY MORTALITY AMONG YOUNG ADULTS IN KIRUDDU AND MULAGO HOSPITALS.

ADRIAN MWOTA NAMPOGO



Under the '*Reducing Stroke Program*,' I was able to conduct my research to completion and I am currently at publication level with the PLOS One Journal. My study examined the proportion of young adults among stroke patients admitted in Mulago and Kirruddu Hospitals, 30-day mortality outcomes and associated factors.

Results reveal that a third of all stroke patients were young adults with almost half with haemorrhagic stroke type, and a third with severe strokes.

The 30-day mortality outcome was high and was associated with smoking, not

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drinking alcohol, and a high NIH stroke score greater than 16.

Owing to the findings, I recommend that primary and secondary stroke preventive interventions need to be enhanced to reduce stroke burden among young adults in Uganda.

My experience on the Brain Health Program

Participating in this research and training program has been a transformative experience for me. It has allowed me to develop a deeper appreciation for the complexities of medical research and the importance of evidence-based practices in healthcare.

Working with stroke patients and their families during data collection has been a humbling experience, as we witnessed the impact of stroke on the lives of young adults. It has fuelled my determination to make a difference in stroke management and prevention.

Additionally, since joining the program, I have become a better researcher. My knowledge of research methods has been elevated.

The focus and vision towards stroke and its implication are clearer than before. I successfully wrote my dissertation and graduated with a Master of Medicine in Internal Medicine in

My supervisors and mentors, spearheaded by Prof. Mark Kaddu

Mukasa, have been supportive at all levels of research.

Benefits accrued

I have acquired knowledge and skills from the various trainings on research methods, sampling techniques, data analysis and manuscript writing. These have made me a better researcher. Moreover, the program fully funded the research activities during my master's programme and this enabled me to finish the master's program on time as required.

Wholly, my experience from the program has been invaluable in shaping my understanding of medical research and instilling a passion for making a positive impact in the field of healthcare.

The Stroke Training Program scholarship



BRIDGET NAGAWA TAMALE

With support from the Stroke Training Program scholarship, I've embarked on

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a mission to delve into the prevalence and predictors of stroke among older hypertensive patients attending public health facilities in Greater Kampala, Uganda.

Identification of predictors of stroke among older hypertensive patients can pave way for targeted interventions, prevention strategies and improved healthcare access. Currently, my research proposal is complete and I await defense before I can start data collection.

As I prepare to defend my proposal, I do so with the weight of not just academic expectations, but a commitment to a healthier Uganda, one stroke-free future at a time.

This is not just my research, it's a shared mission. Together, we can turn the spotlight on stroke, understand its grip on Ugandan communities and pave the way for a brighter, healthier future.

Under the program, I have received invaluable training in Mentoring & Leadership, Non-Communicable Disease Epidemiology and Good Clinical Practice which are vital in navigating the complexities of public health research.

Additionally, the program's education committee meetings have been brainstorming sessions, offering crucial guidance and shaping my proposal into a powerful roadmap for impact. But the journey hasn't been a solo expedition.

I have interacted and shared insights with a vibrant community of researchers bent on excellence. This collaborative spirit fuels my own commitment, reminding me that tackling public health challenges is not a solitary trek, but a collective climb towards a healthier tomorrow.

The Stroke Training Program isn't just shaping my research; it's shaping my future.

It has shown me the power of collaboration, importance of evidence-based solutions, and the profound impact research can have on people's lives. So, the next time you hear about the Stroke Training Program, remember this story.

Remember the dedication of researchers, the power of collaboration, and the hope that blooms from tackling public health challenges head-on. In the fight against stroke, we're all stakeholders, and every step forward ripples outwards, one life at a time.

Driving Research Excellence through Research Administrators



DOREEN RITAH BIRUNGI
Research Administrator

As funding for research administration is rising, so is the profession. Research Administrators plan, direct and coordinate student instruction, administration, services and other research and educational activities within an institution or project.

Additionally, they (administrators) help Principal Investigators to manage research grants and contracts and support faculty with planning, preparation and submission of proposals to funding organizations.

Furthermore, Research Administrators oversee the progress of research programs, ensuring efficiency and smooth workflow.

Overarching responsibilities revolve

around devising strategies to optimize processes, setting goals and objectives, coordinating the research, managing schedule and budgets and maintain record of all transactions.

The increasing resource basket for the profession means more workloads for many researchers and administrators. Despite this, my career as a research administrator is fittingly rewarding.

Although I do not conduct actual research, I have facilitated the realization of lots of innovatory research conducted at Makerere University's College of Health Sciences (MakCHS).

I work closely with both faculty and the central office to ensure proper completion of research projects and participate in writing progress reports, conducting feedback surveys and resolving issues promptly and professionally.

In my years of professionalism as a Research Administrator, I have learned that in order to excel in this work, one ought to:

pay attention to detail when reviewing grant and contract documents; have the ability to think independently and make qualified judgments; have the ability to create and review complex budgets and wield good communication, interpersonal and leadership skills.

Wholly, Research Administrators must be streamlined and clear in their approaches during the lifecycle of an award.

My Transformative Experience on the Reducing Stroke Program



DR. ANDREW PETER KYAZZE,

Second Year Resident Master of Medicine in Internal Medicine, Makerere University

The heart of any academic or professional endeavor lies in the pursuit of knowledge and advancement of one's field. In my research journey with the Reducing Stroke program, I delve into studying the burden and outcomes of stroke recurrence at Mulago National Referral Hospital.

This topic is grossly under studied in Uganda yet recurrent stroke is likely to be burdensome given the trends of stroke incidence in Sub-Saharan Africa.

This study is happening at a time where Sub-Saharan Africa is grappling with an increasing burden of non-communicable diseases, many of which are risk factors for stroke

incidence. I am currently in the process of seeking regulatory approval to enable me to conduct my research.

The program provides me with an enriching environment for developing my research questions through collaboration and exchange of ideas, both with peers and mentors in research and the stroke topic.

Guidance from my mentors in the program plays a pivotal role in shaping the structure and direction of my research question.

As a result, I am proud to report significant progress that is bringing us one step closer to addressing the critical questions posed by my research topic.

Additionally, participating in this training program has been a transformative experience, offering a myriad of skills training that extend beyond the academic realm.

The program's structured curriculum, mentorship opportunities and access to research resources have been instrumental in honing my other skills like leadership, communication, handling mentorship relationships and scientific presentation.

Reflecting on my journey since joining the program, I am proud to acknowledge the achievement of timely development of a full proposal protocol for my Masters research.

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I anticipate data collection to begin soon and remain confident that I will present my findings to the global scientific community.

My experience within the training program has been nothing short of transformative. The camaraderie within the program characterized by the pro-mentee support from mentors and warm collaboration with peers has created an environment conducive to continuous learning and goal achievement.

As I continue to navigate the intricate landscape of answering my research questions about stroke recurrence, I will continue to carry with me the indelible lessons and experiences I have gained thus far from this program.

It is with gratitude and excitement that I anticipate my research future, armed with the knowledge, skills, and a network that I will have cultivated during this enriching journey.

My Experience with the Brain Health Training Program



DR. ANITA ARINDA

I am a psychiatrist and assistant

lecturer in the Department of Psychiatry at Makerere University. My primary research interest is childhood neurodevelopmental disorders such as autism spectrum disorders, intellectual disability, epilepsy, and attention deficit hyperactivity disorder.

Under the Brain Health Training Program, my research is exploring the intersection of epilepsy and intellectual disability. People with epilepsy are more likely to have intellectual disability compared to those without epilepsy. Moreover, people with epilepsy and intellectual disability face distinct challenges and require tailored management approaches. However, this comorbidity is understudied in African settings where burden of both epilepsy and intellectual disability is notably high. Therefore, my research seeks to bridge this knowledge gap by determining the prevalence and identifying factors associated with intellectual disability in children and adolescents with epilepsy at the two national referral centers in Uganda.

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Currently, I am developing a research proposal on intellectual disability in children with epilepsy.

Journey and Experience

My journey within the program has been positive thus far. I have been afforded the opportunity for peer mentorship, where I get to present my research and get feedback from other fellows on the program. This has provided me with perspectives on how to refine and strengthen my work.

This program has also afforded me

the opportunity to take various training courses to improve my research and leadership skills. These training courses cover diverse topics such as responsible conduct of research, grant writing, Non-Communicable Disease epidemiology, mentorship, and leadership.

Another enriching aspect of this experience has been the guidance and mentorship I receive from leading researchers in the field of brain health, from both Uganda and the USA.

I remain indebted to the Program and for me, the sky is the limit.

A Journey of Illumination: My Research Experience with the Brain Health Initiative



**DR. BASIIMWA ROY CLARK -
Radiology resident – Year III**

My journey with Brain Health Initiative

began with a simple question: How can we improve the quality of radiology reports for patients with traumatic brain injury (TBI)? This question led me to embark on a research project that has not only enriched my knowledge but also shaped my career trajectory.

My Research and Progress

The focus of my research is a comparative study of structured and free-text reporting for patients with TBI. The aim is to assess the utility of structured reporting (SR) in improving the completeness, consistency, and agreement of radiology reports for head CT scans of TBI patients, compared to free-text reporting (FTR). The study employs a cross-sectional design, involving four radiologists who report on 88 brain CT images using both FTR and SR. The reports are scored according to predefined criteria and compared

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for interobserver agreement and completeness. The progress has been significant. We have successfully collected and analyzed a substantial amount of data.

Benefits from the Program

The program has provided me with a unique support to delve into areas of research in medicine. We have received a lot of training on ethical practice in research and understanding how to write and implement a research in medicine. Moreover, it has fostered a spirit of collaboration, as the sponsorship allows us to liaise with seniors and colleagues in the field of research.

Achievements

Since joining the training program, I have made several notable achievements. The most significant is the successful approval and initiation of the research project.

My Experience

My experience at Brain Health Initiative has been nothing short of transformative. The opportunity to conduct research with the guidance of senior members in the field of research has improved my writing and understanding in research. The challenges encountered along the way have only served to strengthen my resolve and commitment to medical research.

My contribution to improving the mental health care of patients with Epilepsy

BY; DR. JULIUS CEASAR KIMERA



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Research is a valuable avenue for discovering, learning and using new scientific methods that address day to day challenges especially in the field of health.

Compelled by the value that research contributes to society, I applied and was successfully selected to pursue my Masters of Medicine in Psychiatry under the Brain Health Training program at Makerere University College of Health Sciences.

My research study aims to ascertain 'Prevalence and factors associated with psychosis among adult patients with epilepsy attending care at Butabika National Referral Mental Hospital.'

To date, the Brain Health scholarship has exposed me to short courses in research which have enabled me to improve my writing skills and also provided me with mentors who have supported my research activities.

Additionally, I have acquired competent skills in research methods and hope to directly improve care of patients with Epilepsy comorbid with Psychosis by routinely screening and identifying patients with Psychosis in our primary care settings and referral points.

Am a member of the East African Young Psychiatrists Association (EAYPTA), I envision this research project translating into holistic and comprehensive care of patients with Epilepsy, which is a recommendation according to the International League against Epilepsy (ILAE).

Consequently, the findings from the study will inform policy formulations by stake holders at Ministry of Health Uganda.

The research project leaves me with vast and productive experience where I will be able to contribute to society in a positive way.

Unraveling Traumatic Brain Injury Mysteries: A Journey into Developing Predictive Models



DR. LARRY KASEREKA KAMABU

I am currently undertaking my Master of Medicine in Neurosurgery studies at Makerere University, sponsored by the Brain Health Training Program. Being part of this program has been a transformative experience, shaping my approach to research and reinforcing the importance of interdisciplinary collaboration.

My research focuses on understanding the complexities of traumatic brain injuries (TBIs) and, more specifically, on developing predictive models for expansive intracranial hematomas occurrence (a collection of blood within the skull) and surgical evacuation

outcomes. The study is being conducted at Mulago Hospital and aims to enhance the early identification and management of TBIs, ultimately improving patient outcomes.

So far, preliminary results indicate promising trends in predictive modeling and these models have the potential to revolutionize the approach to TBI treatment, providing more personalized and effective interventions. I have published one manuscript in BMC Surgery titled; 'Burden, risk factors, neurosurgical evacuation outcomes and predictors of mortality among traumatic brain injury patients with expansive intracranial hematomas in Uganda.'

Furthermore, we have submitted second manuscript under BMC Neurology titled; 'Predictive models for occurrence of expansive intracranial hematomas and surgical evacuation outcomes in traumatic brain injury patients in Uganda: A prospective cohort study.' We are waiting for feedback from reviewers.

Program achievements and benefits:

Since joining the training program, I have achieved several milestones that have contributed to both personal and professional growth. Notable accomplishments include: successful presentation of preliminary findings at Association of Surgeons of Uganda (ASOU) Conference and, through a competitive application process worldwide, our abstract was accepted as an oral presentation at the 18th World Federation of Neurological Societies World Congress

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of Neurosurgery meeting in Cape Town. Additionally, our team secured a travelling and accommodation grant to further expand the scope of our research, underscoring the program's impact on advancing scientific inquiry and innovation.

Being part of this program has provided a platform for collaboration offering diverse perspectives and expertise. The exchange of ideas within the program has not only broadened my understanding of neurosurgery and predictive modeling but has also fostered a sense of community among researchers. Access to resources, mentorship and networking opportunities have all been invaluable, contributing significantly to the success of my research endeavors.

I look forward to sharing more detailed findings in the near future and continuing the journey toward innovative solutions for traumatic brain injuries.



Eulogy for MakCHS - Brain Health Program



DR. RONALD OBOTH

A beneficiary of the Brain Health Training Program, graduated with a Master of Medicine degree of Makerere University in January 2024. He credits the program for having supported him to conduct his research that examined the 'Prevalence of late posttraumatic seizures and factors associated with their development in depressed skull fractures at Mulago National Referral Hospital.' Consequently, he was able to publish one journal

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article in PubMed. The article is titled; 'post-traumatic seizures and factors associated among adult patients with depressed skull fractures at Mulago National Referral Hospital – A Cross Sectional Study.'

"The financial support by MakCHS Brain Health Training program, again, was a timely savior and I managed to meet all costs of my research project.

Again, I thank the program for financially supporting me during the World Federation of Neurosurgical Societies (WFNS) congress, 2023, which took place in Cape Town South Africa in December 2023," says Dr. Oboth.

During that congress, he was exposed to current developments and advancements in neurosurgery and management of neurological disease and also made numerable international contacts.

Financial support aside, he notes that he reaped more benefits through the mentorship, supervision and training offered on the program.

The program offers a range of trainings to scholarship beneficiaries which equip students with practically applicable knowledge and skills to ease the hurdles of research proposal writing, data collection and analysis and scientific writing and dissemination.

The faculty endeavor to simplify the principles, methods and ethics of a

scientific research process which eases' students' application of them.

On the part of mentorship and supervision, Dr. Oboth is grateful to his supervisors, Profs. Mark Kaddumukasa; Elly Katabira and Martha Sajatovic for the time they dedicated towards his research project.

"Despite their busy schedules, they always found time for both physical and virtual meetings to discuss the progress of my research project. It is one thing to be a mentor / supervisor but another to actually perform the supervision and mentorship roles," he notes.

He owes additional gratitude to Doreen Birungi, the program's administrator for exceptionally guiding the awardees about the requirements to qualify for all benefits at every stage of their projects.

As a way of building sustainable faculty and institutional capacity for research to improve brain health across the lifespan in Uganda, Dr. Oboth encourages students in various masters' programs to have interest in neurological disease and stroke and to identify the knowledge gaps in disease epidemiology, pathogenesis, treatment and treatment outcomes.

He believes that this is the first step to generation of beautiful research ideas or concepts which can be built into great research projects whose results will translate into improvement of patient care and outcomes in Uganda.

My gratitude towards the Brain Health Program



JOHN BAPTIST SSENYONDWA

When I started working on my research project under the Brain Health Program, I was privileged with a lifetime opportunity to interact with some of the greatest scientists in the world.

It was evident from my mentors that we had to shoot for the stars with our projects.

I have learned several lessons along the project's phases including; proposal and concept development, scientific writing, research methods, ethical considerations in research, use of data analysis software to perform basic analysis, among many other skills.

Prior to this, I envisioned research as a complex and wild goose chase venture.



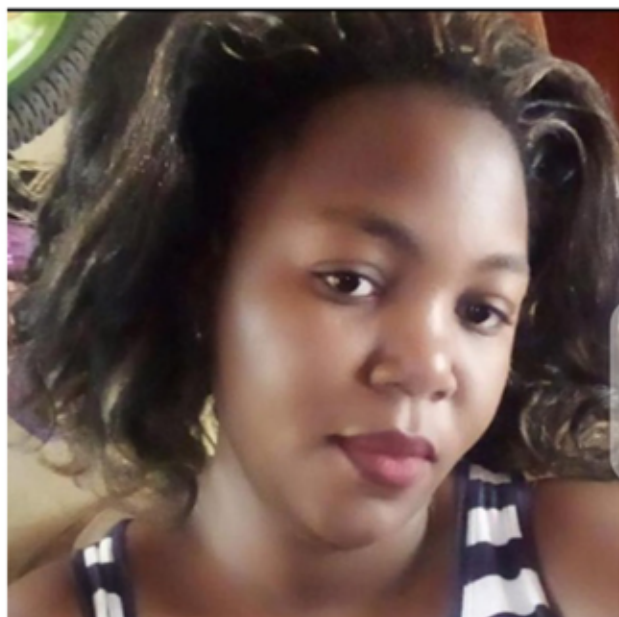
However, conducting this study as a lead investigator has fueled my interests to become a researcher.

Hitherto, I was able to successfully write and excel in my research dissertation and even compiled a manuscript for publication.

I have also been able to present my research work at three international scientific conferences with support from the program.

Despite the setbacks I've met during this project, I have benefited a great deal. I have met and made new friends; was able to graduate from my master's degree class and I feel confident that my work has positively impacted the scientific community.

My rewarding journey on the Reducing Stroke Program



NDIWALANA MARIAM

My name is Ndiwalana Mariam; I am a graduate nurse in Uganda with a total of 12 years of clinical experience in midwifery, medical, surgical, neonatal and pediatrics.

Presently I work as a nursing administrator at Naguru Hospital. I have recently completed my Master's in Nursing, Midwifery and Women's health from Makerere University and I await my dissertation defense.

My research study sought to describe Magnesium sulphate administration patterns in women with pre-eclampsia, eclampsia and the immediate newborn outcomes of neonates exposed to intrapartum magnesium sulphate.

A descriptive cohort study was used to follow mothers diagnosed with

pre-eclampsia with severe features or eclampsia through the intrapartum period and 24 hours postpartum to observe the magnesium sulphate treatment regimen administered to these mothers.

Assessment of their fresh newborn using Apgar score and 7 days follow up of all the admitted neonates was done to gain more knowledge on their outcomes using the Thompson's core.

I am currently working on a manuscript for this work.

Vote of thanks

I was privileged to get a scholarship from the Reducing Stroke Program at Makerere University College of Health Sciences which has helped me to write my protocol.

Under the Program, I was provided two mentors who helped me with this process. Also, I attended lectures and courses on research methods, mentorship on leadership training, good laboratory and clinical practice which made my research journey much simpler than I had anticipated.

Furthermore, I was fortunate to present my progress to the Principal Investigator of the Stroke Project from Case Western Reserve University.

This has been a great experience for me and I am eager to go through the remaining part of my research mentorship journey with the project.

The Brain Health Program has exposed me to interdisciplinary research



DR. MOSES ORIONGA

I am Dr. Moses Orionga, a beneficiary of the Brain Health Training Program, pursuing my Master of Medicine in Internal Medicine at My research under the Brain Health Training Program focuses on the incidence of Acute Kidney Injury (AKI), risk factors, and 30-day mortality outcomes among stroke patients admitted at Mbarara Regional Referral Hospital. It includes a review of existing literature and case studies to contextualize my findings within the broader landscape of stroke and AKI research. This step is crucial for identifying gaps in current knowledge and ensuring that my work contributes meaningfully to the existing body of research. The ultimate goal is to provide healthcare professionals with evidence-based insights that can enhance the care and outcomes of stroke patients, particularly those at risk of developing AKI.

My research journey began with an in-depth exploration of available data sources. Collecting data from patients and navigating the intricacies of patient data privacy were initial challenges. However,

overcoming these challenges marked the beginning of a data-driven exploration into the complexities of the relationship between stroke, AKI, and patient outcomes. So far, I have amassed a substantial amount of clinical data, encompassing patient records, laboratory results, and imaging studies and the long-term outcomes. The integration of these datasets has laid the foundation for a comprehensive analysis of these data.

Benefits from the program

One of the highlights of my research experience under the Brain Health Program has been the opportunity for interdisciplinary collaboration. Engaging with other clinicians, neurologists, radiologists, statisticians, and research assistants has provided diverse perspectives and enriched the research process. Regular meetings and discussions have fostered a holistic understanding of the subject matter and have led to methodological refinements. This collaborative environment has enhanced the robustness of my study and ensured a more holistic understanding of the data.

Furthermore, engaging with fellow researchers and attending trainings have exposed me to the latest advancements in the field. This exposure has not only enriched my understanding of the subject matter but has also opened avenues for potential collaborations and future research initiatives. The program's strong emphasis on ethical considerations and responsible research practices has guided me to ensure that my study is conducted with integrity and respect for patient privacy.

Last words

My experience as a young researcher on this project has been a journey of exploration, collaboration, challenges, and discoveries. The complexities inherent in studying the intersection of stroke, AKI, and mortality outcomes have made this research both intellectually stimulating and impactful in the pursuit of advancing medical knowledge and improving patient care.



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