YOUNG AFRICAN NEUROSURGEONS' FORUM: A SYMBIOTIC APPROACH TO GLOBAL EDUCATION AND RESEARCH

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The Young African Neurosurgeons Forum (YANF) of the Continental Association of African Neurosurgical Societies (CAANS) has had numerous exciting projects during the first semester of 2021. This has been strengthened by the strong relationship YANF has with the WFNS Young Neurosurgeons Forum, which is a testament to how young neurosurgeons globally have mastered the art of teamwork with the overall aim of growing together. Based on our recent publication titled, "*Needs of Young African Neurosurgeons and Residents: A cross-sectional study,* one of the challenges experienced by young African neurosurgeons was *limited access* to *research* (67%) and *educational opportunities* (58%)[1]. Hence as an organization, our activities have revolved around *education*, *research, and mentorship.*

Education:

The YANF runs monthly educational webinars on topics that are prevalent in our daily practice. We started the year strong by collaborating with WFNS YNF for our symposium "*Traumatic Brain Injury: Africa's Silent Pandemic"*. WFNS President Pr Franco Servadei was the Key speaker. Other Guest speakers included Pr Kee Park (Chair, WFNS GNC), Pr Tony Figaji (CAANS Education Chair) and Dr Angelos Kolias (WFNS YNF Chair).

Our focus in February 2021 was on paediatric posterior fossa tumours, often misdiagnosed within health care systems, resulting in late presentation. We revised the common presenting symptoms during this session and how to appropriately manage the hydrocephalus and tumour resection within this patient group safely in our setting. Global Neurosurgeon Dr Michael Dewan and WFNS WINS Chair Pr Souad Bakhti were our guests.

March 24, 2021 was World Tuberculosis (TB) Day; 25% of TB deaths occur in Africa. The extrapulmonary central nervous system (CNS) management requires a multidisciplinary approach involving both medical and neurosurgery teams. Pr Regan Solomon (paediatric neurologist at Tygerberg Hospital, Cape Town) took us through the medical management of *TB hydrocephalus*. Dr Aaron Musara (Zimbabwe) took us through the staging and surgical management of *Pott's disease*, commonly encountered by the neurosurgeon and orthopaedic surgeon in Africa. The overall aim of the webinar was to highlight the numerous critical steps that can be done for the patient to ensure surgical treatment is reserved for those who have exhausted the medical option.

May followed with *cervical spondylosis* world-renowned neurosurgeon Pr Mehmet Zileli (Turkey) talked us through "patient selection for surgery in cervical spondylotic myelopathy".

Fig.1: Educational webinars run by YANF, from February-May, 2021

In recent years, training in neuroanatomy and neurosurgery has been a challenging issue, especially in Africa. Most medical students complete their training with no exposure to cadaveric dissections, as do neurosurgical residents. UpSurgeOn Academy, led by a Young Italian neurosurgeon, Dr Federico Nicolosi (Link: https://www.upsurgeon.com/), has developed an advanced sequence of virtual and physical tools for mental and manual skills training to mitigate this gap.

Fig. 2: UpSurgeOn Endoscopic Simulation Course with Young Cameroonian Neurosurgeons

Fig. 3: UpSurgeOn Psychomotor Simulation Course with Medical Students in Cameroon

These simulation models provide unlimited access to what only a few privileged trainees ever get to witness for a comparatively brief moment throughout their careers. YANF collaborated with UpSurgeOn and supported by WFNS YNF to organize Courses in Cameroon and Ethiopia.

The trainees found the virtual study tool quite interactive and informative. But the highlight was the integrated virtual and practical dissection performed on the life-like boxes provided.

In Cameroon, courses and workshops took place in four State Universities (Bamenda, Buea, Douala and Garoua Faculties of Medicine) and the Yaounde Military Hospital. More than 600 medical students, 10 neurosurgeons (50% of Cameroonian neurosurgeons), 4 neurologists, 2 neuroradiologists and 1 anatomist benefitted from this training (Figs 2- 4).

In Ethiopia, final year neurosurgery residents and faculty of Addis Ababa University felt fortunate to have been part of UpSurgeOn's International Psychomotor training program (Fig 5).

Fig 4: Students from four Cameroonian Universities during UpSurgeOn Training

Research:

In Africa, it is well known that there is a high burden of neurosurgical disease. Additionally, a gap exists between disease burden and research output. The YANF, supported by CAANS Education Committee, has developed a five-block yearly course, "*Becoming an academic neurosurgeon: A short course in research methodology and output*". The purpose of this course is to enhance research capacity building within Africa. At the epicentre of this project is an African neuroscientist (Dr Ursula Rohlwink) to integrate the Neurological Sciences within the continent.

A successful introductory symposium was held on the April 24, 2021 (Fig 6). A panel of world experts within academic neurosurgery addressed the audience. Pr Benzel, Editor-in-Chief of *World Neurosurgery*, highlighted "*manuscript writing, pearls and pitfalls*". The webinar was on the same day as the *Journal of Global Neurosurgery* "Blue Journal" launch (which aims to nurture and ensure equitable research practices).

The first block of the course, "*defining your research question and methodology*", will be held on the 26th of June 2021, with Pr James Rutka (*Journal of Neurosurgery* Editor-in-Chief) and Pr Lawrence Mbuagbaw (Cochrane Editor) as Key Speakers.

Another exciting aspect was the publication of two papers that are central to our society's activities. Ulrick et al. published "*Needs of Young African Neurosurgeons: A cross-sectional survey*". This helped us ensure that as an organization, we align our activities to ensure they are relevant and support the daily practice of young neurosurgeons on our continent as highlighted in the first paragraph. And in the continued spirit of global unity, we (Thango et al.) also contributed towards an article in combination with WFNS Young Neurosurgeons Forum underscoring the importance of advocating for equitable neurosurgical health care *"The role of young neuro-surgeons in global surgery: A unified voice for health care equity"*.

Fig 5: UpSurgeOn Psychomotor Skill Training in Ethiopia (Led by Dr Tsegazeab Laeke)

It has been an overall busy first half for the Young African Neurosurgeons Forum. Still, together with the WFNS YNF, it has been shown that teamwork is a central component of organizational success. By working together side by side as peers, we can collectively achieve more.

We look forward to continuing this good relationship for the remainder of the year.

Reference:

1. Kanmounye US, Robertson FC, Thango NS, Doe AN, Bankole NDA, Ginette PA, et al: Needs of Young African Neurosurgeons and Residents: A cross-sectional study. **Frontiers in Surgery 8:**150, 2021

Fig 6: Panel for the 24th of April, Research course introduction Symposium