

# A report on women neurosurgeons in Kenya

Tracey Trizah John<sup>1</sup>

<sup>1</sup> Department of Surgery, University of Nairobi

**Corresponding address:** Tracey Trizah John, email: traceyjhn@yahoo.com

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## Abstract

Despite the advancement in neurosurgery, the gap in the neurosurgery workforce still exists globally. There are even fewer female neurosurgeons worldwide. The situation is more pronounced in Sub-Saharan Africa. It is crucial to understand the gender distribution of the neurosurgery workforce to improve the existing disparities. In Kenya, there are 39 qualified neurosurgeons and 40 residents in training locally. There are only 6 female neurosurgeons in Kenya. To meet the shortage of neurosurgeons, women will also play a key role. Increasing the number of female neurosurgeons in Kenya will more importantly increase the number of the Kenyan population that has access to neurosurgeons.

**Keywords:** *neurosurgery workforce, women neurosurgeons, Kenya.*

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## Introduction

Despite the advancement in neurosurgery, the gap in neurosurgery human resources for health (HRH) still exists globally. The situation is more pronounced in Sub-Saharan Africa, (1, 2). The current World Health Organization (WHO) requirement is a ratio of one neurosurgeon to 100,000 persons and 1:200,000 for low and middle-income countries (3,4). The most recent data shows there are 49,940 neurosurgeons in the world. The density per country ranges from 0 to 59 per 1,000,000 persons with the highest concentration of 1:17,000 persons in Japan, (4).

In Africa, the number is estimated to be only 500 neurosurgeons serving a population of over one billion people, (5). There are even fewer female neurosurgeons worldwide (6). There are 3200 women in neurosurgery worldwide. This constitutes 6.4 % of all neurosurgeons in the world, (7). In the USA, women contribute only 8.4% of all neurosurgeons 2017, (6). In this study, (6). Italy had the highest proportion of female neurosurgeons at 36% while Kosovo recorded the lowest at 0%. In Africa, there are a total of 243 women neurosurgeons out of which 77% are in North Africa (8).

## History of women neurosurgeons

Dr. Sofia Ionescu (1920-2008) a Romanian, was the first female neurosurgeon worldwide. Her neurosurgery career lasted 43 years between 1943-1990. She died at 88 years leaving behind an exceptional legacy of great achievement in neurosurgery. Dr. Ionescu was involved in surgery, teaching, and, research. She was known to practice with the highest moral sense and appreciated her patients both as a physician and an individual (9). In Africa, the first woman in neurosurgery was Professor Faiza Lalam of Algeria. She was certified in 1982 and she practiced at the Tizi Ouzou's University Hospital (8). Following these great women, many more have joined neurosurgery with exceptional performance and great legacies.

## Kenyan situational analysis

Kenya currently, there are 39 qualified neurosurgeons according to the Kenya Medical Practitioners and Dentists Council (KMPDC) register. In addition, there are forty neurosurgery residents in training (10). This is a ratio of 1 neurosurgeon per 1.4 million persons in a population of 55 million persons (11) or 0.7 neurosurgeons per 1,000,000 million persons. Out of the 39 qualified neurosurgeons in Kenya, only six are women.

This constitutes 15 % of the neurosurgeons in Kenya. In addition, there is one female resident in training. To meet the WHO requirements, Kenya requires an additional of about 230 neurosurgeons.

In Kenya, the field of neurosurgery has evolved tremendously in the last fifteen years. This has been largely promoted by the establishment of local and regional training programs especially the Master's degree in neurosurgery (MMed-neurosurgery) training program at the University of Nairobi (12). Since the onset of this program, the number of neurosurgeons in the country has more than doubled. This progress has resulted in the expansion of neurosurgery units in the country and the deployment of neurosurgeons in different parts of the country and the region. This local progress has also seen the development of female neurosurgeons in Kenya. Before the onset of the local training programs in 2006, there was not a single female neurosurgeon in Kenya. Women neurosurgeons play a key role in service delivery. Hence, it is crucial to understand the gender distribution of the neurosurgery workforce and thus improve gender disparities that continue to exist worldwide (6).

### Women Neurosurgeons in Kenya

At the moment, there are six Kenyan women neurosurgeons. This constitutes 15 % of the neurosurgeons in Kenya.



*Dr. Sylvia Shitsama*

Dr. Sylvia Shitsama was the first female neurosurgeon in Kenya after graduation in

2015. She is a consultant neurosurgeon and a lecturer at the School of Medicine, Jomo Kenyatta University of Agriculture and Technology (JKUAT). Dr. Shitsama undertook her neurosurgery training in Kenya (MMed-Neurosurgery, University of Nairobi) and Canada at the St. Michael's Hospital, University of Toronto. She has a keen interest in spine and skull base neurosurgery; medical education and research. Dr Shitsama is the Chairperson of the Women in Neurosurgery (WIN) Kenyan chapter; the mentorship lead, JKUAT School of Medicine, and a committee member of WIN, a committee of the World Federation of Neurosurgical Societies (WFNS-WIN). She is passionate about mentorship, especially for young women interested in neurosurgery.



*Dr. Susan Karanja*

Dr. Susan Karanja is a consultant neurosurgeon at the Kenyatta National Hospital. She is also involved in teaching as an adjunct lecturer at the Faculty of Medicine, University of Nairobi. Dr. Karanja graduated in 2015 as the second female neurosurgeon in Kenya. After attaining her medical degree in Kenya, she pursued neurosurgery training in South Africa at the University of KwaZulu-Natal (MMed-neurosurgery). She is interested in neurovascular neurosurgery. Dr. Karanja is the current Treasurer of the Kenya Association of Women Surgeons (KAWS). She is a Fellow of the College of neurosurgeons of South Africa. She is a

member of neurosurgical and medical societies in Kenya and abroad; including the Society of Neurosurgeons of South Africa and the Kenya Medical Women Association (KEMWA). Dr. Karanja is passionate about the improvement of service delivery in neurosurgery.



*Dr. Grace Muthoni Thiong'o*

Dr. Grace Muthoni qualified as a neurosurgeon in 2016 with Master's degree in Medicine-Neurosurgery from the University of Nairobi. She is currently based at the Sick Children Hospital, University of Toronto. In Canada, Dr. Muthoni is working and pursuing further education. Dr. Muthoni has a keen interest in pediatric neurosurgery and neuro-technology.



*Dr. Trizah Tracey John*

Dr. Tracey John is a consultant neurosurgeon and an honorary lecturer. She is based at the

Department of Surgery University of Nairobi and Kenyatta National Hospital. Dr. Tracey is a Deputy Director of Medical Services at the Ministry of Health in Kenya. She studied in Kenya and Switzerland. In 2017, she graduated with Master's degree in neurosurgery (MMed-Neurosurgery) from the University of Nairobi. In addition to neurosurgery, she is extensively trained and experienced in healthcare management and leadership. She is passionate about the delivery of quality healthcare in Kenya. Dr. Tracey is the current Secretary-General of the East Africa Association of Neurological Surgeons (EAANS). She is the author of the book "Guidelines for early Diagnosis of Childhood Brain Tumors in Kenya" published in 2021.



*Dr. Beverley Cheserem*

Dr. Beverley Cheserem is a consultant neurosurgeon and an associate professor at the Aga Khan University Hospital in Nairobi. She undertook her training in the United Kingdom in various University hospitals including South London Hospital. She has a keen interest in skull base neurosurgery. Her other areas of interest include global neurosurgery and clinical research. She is the current Chairperson of the Kenya Association of Women Surgeons (KAWS). Dr. Beverley is a Fellow Royal College of Surgeons, England (FRCS, Eng), a member of the Society of British Neurosurgeons (SBNS), and member of, the Congress of Neurological Surgeons (CNS). In addition,

she is a member of the local neurosurgical societies. Out of the forty neurosurgery residents currently in training in Kenya, there is one female resident, Dr. Marjorie Adagi who is in her senior years of training.

## Discussion

### *Challenges*

Despite the advancement made globally and locally, female neurosurgeons are still faced with some challenges that contribute to low recruitment and retention. However, most of these challenges cut across all genders since the field of neurosurgery is generally demanding (13). The challenges of finding a balance between personal and professional demands since women are faced with additional responsibilities like child-bearing and family-rearing. In addition, mentorship and guidance opportunities tend to be limited, (6, 7, 8, 13).

### *Overcoming the challenges*

As the neurosurgery disease burden in the population continues to expand, there is a need for Kenya to continue training more neurosurgeons to meet the current shortage. Women constitute a significant proportion of the population as well as in medical schools. Therefore, to meet the shortage of neurosurgeons women will play a key role, (13). It is hoped that these pioneer female neurosurgeons in Kenya will inspire more women to join the challenging but largely fulfilling field of neurosurgery. In addition, it will be important to break barriers like work-life balance, mentorship, and guidance not just for women but across all genders, (6,13). However, consideration of issues faced by women neurosurgeons should not be used to lower the standards and expectations that are required for excellence in the field of neurosurgery. As Spetzler said, "Competent women with a passion for neurosurgery will find a way to manage both career and children." (7).

## Conclusion

Increasing the number of female neurosurgeons in Kenya will not only expand

the number of women in neurosurgery but more importantly increase the number of the Kenyan population that has access to neurosurgeons. This will eventually lead to the improvement of the quality and access to neurosurgical care in the country and the region.

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