RISE OF THE FEMALE ORTHOPAEDIC SURGEON

In advancing gender equality- Sustainable Development Goal 5 (SDG5), there is a trend of increasing women representation in all areas and the healthcare workforce has not been left behind. Research has shown that companies with > 20% of women in corporate positions create more innovative ideas, leading to increased success (1). Inclusion of women in orthopaedics brings a return on investment in quality of patient care, surgically related outcomes, (2) and maximizes the abilities of its surgeons across all genders, allowing for the development of a more supportive community (2,3). In recent years, there has been an increase in the number of ladies joining medical school than before and this translates to a higher number applying for surgical disciplines than three years before.

Gender inequality exists within the trauma and orthopaedics domain. An even greater gender inequality exists within trauma and orthopaedics. The European Federation of National Associations of Orthopaedics and Traumatology (2020) states that the number of female orthopaedic surgeons has increased from 4% to 6% over the last decade. Similar trends were observed when comparing nations globally. Only 12% of members of the British Orthopaedic Association were women, along with 6.5% of members of the American Academy of Orthopaedic Surgeons, and 11.2% of practicing Canadian orthopedic surgeons. This is no different in low- and middle-income countries. In Kenya at present 4% of board registered orthopaedic surgeons are female.

According to the World Health Organization, Africa has a predicted need for 3.7 million healthcare workers to provide universal health care by 2030. The focus in the medical workforce has been to improve the doctor-patient ratio through the increased enrolment of medical students. *Women in Surgery Africa (WiSA),* under the umbrella of College of Surgeons of East, Central and Southern Africa (COSECSA), has established a mentorship program for women in surgical training, promoting professional networking and encouraging collaborations.

Locally there are currently seven registered female orthopaedic surgeons of 164 with the board, about 10 pending registrations having completed the specialist training and about 15 more in training for the various programs. This numbers are increasing.

The pathway to this surgical discipline has been marred by lots of myths but have slowly been eroding. Need for sheer brute strength, had to be a male to fit into it: have slowly faded away as it's more of surgical technique. Whitaker *et al* (4) reported 95% of female medical students perceived orthopaedics to be a 'male dominated speciality', and 60% felt orthopaedics 'requires physical strength'.

Microaggression which is subtle and/or unintentional discrimination against minorities, in the form of small, apparently harmless comments, building up and putting undue stress on the person affected. The physical and psychological impact of microaggressions leads to developments of defense mechanisms, and has been linked to depression and anxiety (5), which also affects academic performance and increases the risk of medical errors (6). Women have not necessarily been the only victims of microaggression but this has also contributed to low uptake of the discipline. Among women, this has been exhibited not only by colleagues, as well patients, with majority having to learn to have to prove her worth in the surgical disciple. Not for the faint hearted.

Another reason for women not choosing orthopaedics as a speciality has been the perception of 'inability to have a good work-life balance' (182 of 2,332 (78%)) (7). Singh *et al* (8) in a global review between 1998 and 2018, described concerns that women had voiced about “heavy burden managing a home and a career”. In the African culture, the role of home caring and nurturing has been a sole responsibility of the woman and this has only added to the pressure of the perception a “woman's place” is the home only. Overtime, women have learnt and continue to learn the art of home-career- life balance. Further studies have shown that surgery is not a 'career welcoming women' due to inflexible training infrastructure and difficulty in maintaining relationships (9,10) especially when the woman gets pregnant. There has been fear that pregnancy equates to failure in residency. Studies have now shown, pregnancy during training is not associated with an increased risk of attrition and does not affect case numbers or pass rate for exams (9,11,12). Therefore, female surgeons should not be discouraged from getting pregnant while in training (13).

In matters leadership and leadership roles, the presumption that men are better leaders than women is a longstanding perception with no real basis (14). This has resulted in women being under-represented across all professions, evidenced in 2020, where only 7.9% of CEOs in the European Union

were female (15). Societal attitudes are changing towards gender inequality, and this is reflected in more leadership job roles being undertaken by women even in the orthopaedic fraternity. Orthopaedic institutions with a large cohort of female faculty have a greater percentage of female trainees (16). A recent study has shown that 83% of female students felt there was inadequate representation of female orthopaedic faculty members, and that achieving a leadership role as a woman was unattainable (17). In time, as the trends change this will soon be an issue in the past. Kenya Orthopaedic Association has 3 of the 7 registered female orthopaedic surgeons as members of council and actually as honorary members. KOA is trail-blazing in women in orthopaedic leadership.

Another important factor leading to female trainees not taking up surgery has been a lack of female role models, fear of repercussion, and lack of support pathways (18). While more visible female orthopaedic mentors are required, men can be equally efficient role models and can bridge the gap by supporting female students and trainees in orthopaedics. Lack of female orthopaedic mentors appears to be a factor affecting which subspecialities female orthopaedic surgeons enter. Bratescu *et al* (19) reported that hand (24%) and paediatrics (22.6%) were the most common subspecialties among women. The main reasons for this were personal interests and lack of strong mentorship in other subspecialties (19).

Women have been objectified, mocked, put-down, assaulted by colleagues, patients and seen as inconvenience, unqualified and sexualized as misfits. So working hard to prove this is untrue is what most of us who trained earlier had to contend with. Even in the midst of all this there were supportive male colleagues and mentors. The more mentors one has, the vaster the variety of counsel and perspective one receives. Courage, seeking out for the right mentors and cultivating relationships with mentors and colleagues, believe in oneself and social support are paramount for success as a female SURGEON NOT JUST an orthopaedic surgeon.

The tricky balance of a successful carrier and that of a family require quite a supportive system that understands the nature of work, time input for it and not neglecting family. Women have been known to be creative, diverse and good at multi-tasking all attributes contributing to success.

With the trends increasing intake of more women from undergraduate training to surgical specializations and even in orthopaedics and trauma speciality, the equality matter will soon be a matter in the past. The opportunities are many more, mentors both female and male are more, the fraternity more accommodative of the female gender into the orthopaedic practice and a general acceptance a woman can and does become a good orthopaedic surgeon. The only obstacle would be a wrong self-perception.

To the women pioneers in the orthopaedic practice, congratulations for paving the way, for those coming now, the sky is the limit, keep soaring.

P.N. Waithiru, MBChB, MMed Orthopaedics (UON), Consultant Orthopaedic Surgeon, Department of Orthopaedics, School of Medicine, Kenyatta University/Kiambu Level 5 Hospital, P.O. Box 1253-01000, Thika, Kenya. Email: ndutapew@gmail.com

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