

CASE REPORT

BEGINNER

GLOBAL HEALTH REPORT

Moving Ahead



Building a Strong Network Among Female Cardiovascular Clinician Scientists and Researchers in Africa

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ABSTRACT

This case reports on the authors' successes building a strong network among female cardiovascular clinician scientists and researchers in Africa provides examples of collaborations and mentorship. **(Level of Difficulty: Beginner.)**

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As in other parts of the world, women in Africa are poorly represented in research and clinician-scientist leadership positions. In contrast to higher income regions, the entire African continent faces enormous challenges of an overall lack of clinicians, public health specialists, and scientists. In particular, there is a tremendous shortage of cardiologists, pediatric cardiologists, cardiovascular surgeons, and basic science researchers throughout Sub-Saharan Africa (1). These facts are highlighted by a snapshot of 1 discipline in 3 African countries. It is notable that South Africa, which has a population of >55 million, currently has only 2 female adult cardiology professors and 2 in pediatric cardiology. Similarly, Nigeria (population: 186 million) has 2; Mozambique (population: 28 million) has 1; and Tanzania (population: 55 million) has no female cardiology professors.

Over the past decade, female researchers in Africa have formed networks to facilitate the advancement of fellow female researchers and clinician-scientists

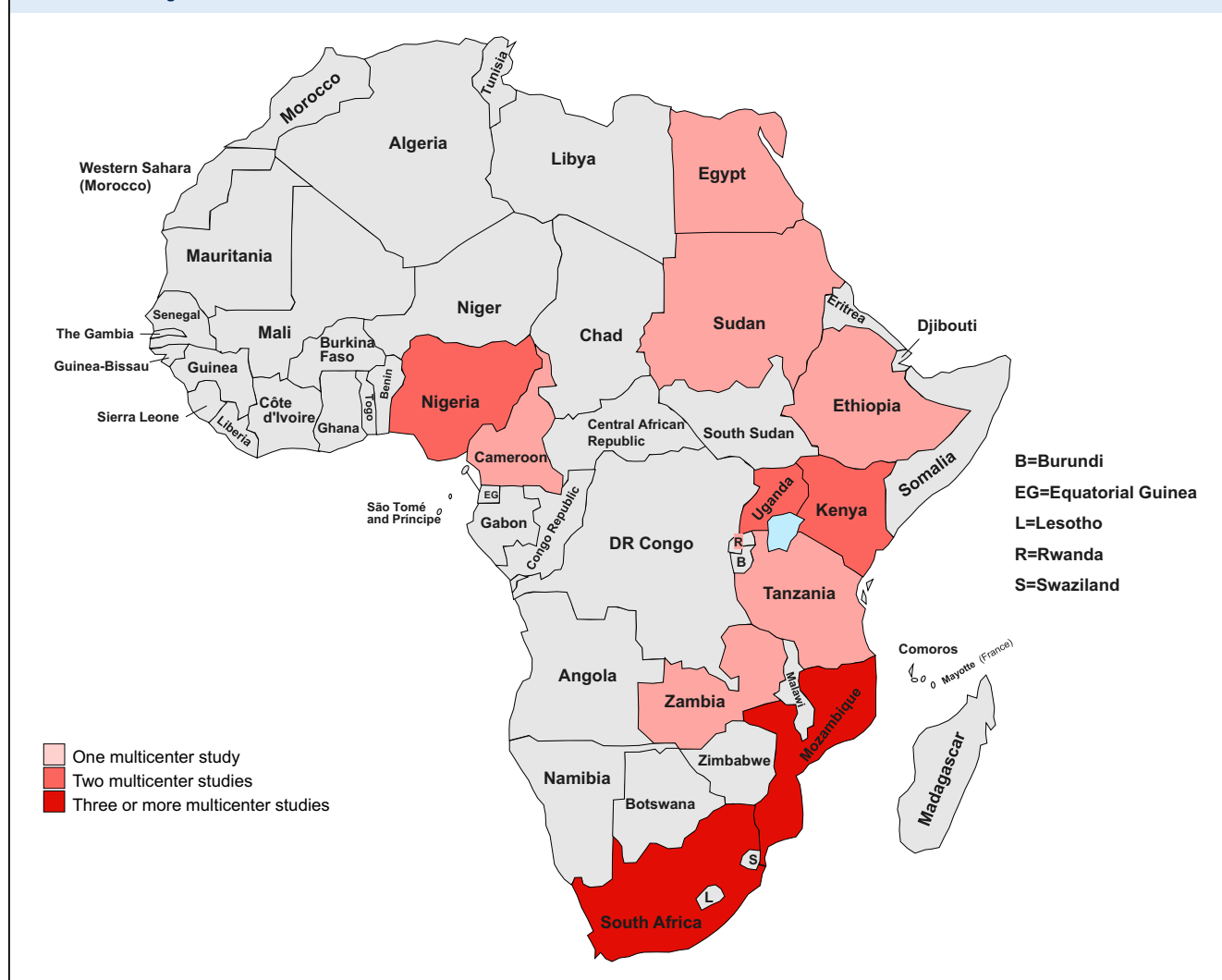
in cardiovascular medicine. This has transpired in a number of areas and, despite being so few in number, has led to representation in major African and international leadership positions in organizations such as the South African Heart Association (SAheart), the Pan African Cardiac Society (PASCAR), the World Heart Federation (WHF), and the European Cardiac Society (ESC), among many others. Appropriate recognition for research comes through invitations to contribute articles to leading journals and textbooks and invited lectures. These researchers and clinicians have consistently focused on being strong mentors for junior females who will, hopefully, follow in our footsteps by encouraging them to consider a balanced life, which could include children (if they wish) and a successful and passionate professional life.

These activities have galvanized solidarity, and we have responded to aspects of poor female representation in leadership positions in our area of professional activities. We would like to share our

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FIGURE 1 Moving Ahead



experience in the hope that this will encourage others working in low-resource settings.

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RESEARCH NETWORK

In the past 25 years, Sub-Saharan Africa has undergone rapid demographic changes due largely to changes in lifestyle and urbanization, leading to an epidemic of cardiovascular disease. Under the umbrella of SAheart studies, we have formed an African researcher network with like-minded colleagues from across the continent (Figure 1). Established in 1981, this network has received strong support from PASCAR, an organization of physicians from across Africa who are involved in the treatment and prevention of cardiovascular diseases prevalent

in Africa. Within this network, we have supported each other in multicenter African cardiovascular studies such as the Heart of Soweto studies (2,3), the REMEDY (Global Rheumatic Heart Disease) registry (4), and PAPUCO (Pan African Pulmonary Hypertension Cohort; NCT02265887) (5). Other studies focused on acute heart failure as (6,7) and endomyocardial fibrosis (EMF) (8). These studies were carried out even though they were often poorly supported financially and there was not always a strong professional advantage to be gained by participating in the projects of our female colleagues. However, this concept of solidarity has advanced the professional standing of us all by high-impact and highly cited publications of research into conditions relevant to African populations. We were always confident that we could count on each other, even in crisis situations

(e.g., when much needed funding did not arrive on time), for critical reviews of a manuscript (even for nonauthors), for soliciting input, for learning how to do research within a tiny budget and very limited infrastructure, and for personal meetings in our respective research facilities. We have learned to discuss matters of authorship before submission for the purpose of allowing appropriate and timely contribution to multiauthor papers, as well as avoiding conflict and unnecessary competition.

NETWORK IN FUNDRAISING

We have used our networks also to apply for joint funding. Following are a few examples which had specific impact on supporting female researchers.

In 2011, the U.S. National Institutes of Health Fogarty program supported the University of the Witwatersrand Non-Communicable Disease Research Program (9), a unique training project in which 3 of the 4 principal investigators were females from different disciplines: Michèle Ramsay specialized in genetics; Kerstin Klipstein-Grobusch specialized in public health; and Karen Sliwa specialized in cardiology. All investigators worked toward fostering a multidisciplinary training program and environment. This training program developed a group of well-trained female (and male) non-communicable disease researchers (with >75% female trainees) at the masters, PhD, and postdoctoral levels. This group has performed research in the fields of genetics, epigenetics, physiology, clinical practice, and public health, and some focused their work on examining in-depth social factors related to cardiovascular and metabolic diseases (10). Several of the postdoctoral fellows have since been elected to be part of the WHF Emerging Leadership program (World Heart Federation, Geneva, Switzerland), which aims to form a long-term cadre of experts who collaborate, perform research, and act to reduce premature cardiovascular mortality. They also work to highlight the needs of investment in diseases such as rheumatic heart disease, a condition affecting many women at reproductive age globally.

Another example of joint funding with 2 female principal investigators from Sub-Saharan Africa was the PAPUCO study, which was supported through an agreement between the National Research Foundations of South Africa and Mozambique.

Overall, there is still very little funding support by national research foundations or international funding bodies for noncommunicable diseases for national and multicountry African projects. However,

despite these challenges and differences in language, it has been possible to obtain funding from various other sources for several collaborative projects, including the Eduardo Mondlane University, Maputo, Mozambique, and the University of Cape Town, South Africa (11).

NETWORK WITHIN COMMITTEES AND SOCIETIES AND MENTORING

All of us are actively involved in a number of cardiovascular societies such SAheart, the Nigerian Cardiac Society, the WHF, and the ESC in the roles of president, board members, or leaders of various committees. We have never felt the need to form a specific women's group within any of those societies, such as a "Women in PASCAR" group. Forming exclusively female groups within societies and organizations could be counterproductive and stigmatizing. Promoting women in leadership positions requires a concerted effort and intentional support and affirmation, both from other women and from supportive men. This is an approach widely used by male colleagues, often referred to as "the old boys' club." However, over the years, we have supported each other in obtaining leadership positions and by actively advising on issues such as how to tackle complex interpersonal relationships within committees. Many of us were the first females to hold certain leadership positions since the existence of a society, and we have striven to ensure promotion of other females in leadership bids. We have faced barriers to advancing our careers by combining motherhood with other interests while in a graduate research environment or clinical work or have been hampered by "the old boys' club" culture. By having strong collaborations and sometimes forming friendships beyond the work environment, we have proven that it is clearly possible to be innovative and highly productive and still manage to have a balanced life. There is no need to prove that being indispensable means spending unnecessarily long hours at work and, often, having to meet after hours and on weekends.

Leading by example is one of the goals for the active mentoring of junior female colleagues. The PAPUCO project promoted the involvement of established and young female researchers who have led study implementation in their countries, resulting in publications with balanced gender representation and women in leading roles (12). In 2016, Sliwa and Ana Mocumbi started a formal collaboration between their 2 teams at the Hatter Institute for Cardiovascular Research in Africa (Cape Town, South Africa) and

the National Health Institute (Mozambique). They now jointly supervise young research females who represent the next generation of cardiovascular researchers in Africa. We believe that our female mentor-mentee relationship is important to reassure junior female colleagues that they do not need to work harder than men to prove themselves and to encourage them to negotiate career advancement and salaries appropriately. Several reports have suggested that dedicated mentorship for women is associated with increased academic activity in both publications and rank promotions and that mentored faculty were enthusiastic about the program and experienced a positive work-life balance (13). Female solidarity and

the active mental decision to empower oneself are the most important ways forward.

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