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UNESCO- Merck Africa Research Summit
UNESCO-MARS
Empowering Researchers
From Africa For Africa

2nd UNESCO-MERCK Africa Research Summit

28th and 29th November 2016

Addis Ababa, Ethiopia

UNESCO-Merck Africa Research Summit- MARS 2016

A valuable opportunity for all those engaged and interested in health research in Africa to learn about the full spectrum of ground-breaking scientific research currently underway, and prepare for the road ahead in Africa's development as an international hub for research excellence and scientific innovation.

Introduction

Since the advent of modern health research and early studies of antibiotics, health research and clinical trials have been essential to the development of myriad drugs to help treat infections, manage long term or chronic illness, and prolong the life of patients with cancer and HIV. Health research has transversal reach since it not only contributes to society's well-being; but also influences a nation's economic output through increasing productivity. Disparities and inequities in health remain a major development challenge in the new millennium, and malfunctioning health systems are at the heart of the problem. Countries with the highest disease burden are struggling with poor service delivery and infrastructure, inadequate financing, severe shortages of doctors, nurses and other trained scientific researchers, and a lack of basic information on health indicators. It has also become apparent, following the recent Ebola crisis in West Africa, that there is paucity in the health research milieu; (scientific and)

health researchers do not have the capacity to provide adequate scientific solutions to problems at the local level.

In this context, Merck¹ motivated and guided by its values along with its responsibility towards the African societies and scientific community a link was established with UNESCO to conceptualize UNESCO-MARS initiative with the aim of empowering researchers from within Africa. As a result, UNESCO and Merck organised the first Africa Research Summit (UNESCO-MARS) last year in October 2015, in Geneva, Switzerland. The Summit was focused on the vital role of research in translating knowledge into action - to improve health condition and the well-being of communities with special focus on HIV and Emergent Infectious Diseases such as Ebola; it was attended by 102 researchers from 30 African countries where they deliberated extensively on infectious diseases, and policy environment for research; and it was a good environment for research networking, knowledge sharing and exchange. The Summit concluded with a declaration that addresses the need to reinforce capacity building and international efforts in to cope with unpredictable events and risks associated to the poor management of weak health systems. On the other hand, several participants were recognized and awarded for excellence in research, in which, two scientists were awarded six- month fellowships in Merck's Biotechnology R&D hub in Germany².

Building on the success thereon and the lessons learned from the 1st Summit, UNESCO and Merck is organizing the 2nd UNESCO MARS Summit from 28 to 29 of November 2016 that is to be hosted in Addis Ababa, Ethiopia. This year's Summit with a theme '**Infectious Diseases and Women Health**'; the theme was designated after extensive discussions among the organizers; scientists that participated in the 1st Summit; the scientific commission; among others .The theme was also recommended and commended by the numerous feedback received from scientific institutions and civil societies. www.unesco-mars.com

UNESCO MERCK AFRICA RESEARCH SUMMIT- MARS 2016

¹ Merck is a leading global company for innovation and top-quality high-tech products in healthcare, life science and performance materials. It is also the world's oldest Pharmaceutical and Chemical company that was established in 1668.

² The declaration along with the names of the awardees could be visited in www.unesco-mars.com

The 2nd UNESCO MARS Summit is a unique opportunity for Africa’s young and talented scientists to share their research output and findings with the top echelon of scientists from Africa and abroad. It is also an opportunity for networking and career development. The Summit will presents a platform where young scientists will be able to discuss the enabling environment for better research among others. On other note the organizing committee will launch the Best African Woman Research Awards to recognize the outstanding contribution of African female scientist.

rationale

The theme of the Summit “**Infectious Diseases and women health**” is an outcome of extensive consultation that was motivated and inspired by the 1st World Women’s Health and Development Forum³ and its declaration “Global Action Agenda for Women’s Health”; the First Global Ministerial Conference on Healthy Lifestyles and Non-communicable Diseases; the Beijing Declaration of the BRICS⁴ Health Minister’s Meeting; the Nassau Declaration on Health; the Jakarta Declaration on Occupational Health for All; the Abuja Declaration and the Plan of Action from the African Summit on Roll Back Malaria; the International Conference on Population and Development Programme for Action; the Resolutions of the UN General Assembly on Global Health and Foreign Policy.

In Africa, the issue of health research has been comprehensively covered in Africa Agenda 2063 and the Science, Technology and Innovation Strategy for Africa – 2024 (STISA-2024) which was adopted in 2013 and 2014 by the African Union Summit. The Abuja+12 Special Summit on HIV/AIDS, Tuberculosis, and Malaria (July 2013) highlighted the need to utilize and build on Africa’s research capacities to produce new and effective medicines, diagnostic tools, vector control tools and vaccines; and to promote research, invention and innovation in traditional medicine. Similarly, it emphasised the urge to strengthen local health ecosystems, taking into account the socio-cultural and environmental situation of the people.

For many infectious diseases, women are at higher risk and have a more severe course of illness than men for many reasons, including biologic differences, social inequities, and restrictive

³ The forum was organized by United Nations and the Royal Academy of Science International Trust (RASIT)

⁴ BRICS (Brazil, Russian Federation, India, China and South Africa)

cultural norms therefore efforts to recognize and reduce health disparities among women have particular relevance for global health.

The need to focus on women health in this year summit is further justified by reflecting on the statistical evidence that women are 30% more likely than men to be HIV-infected. Consequently, HIV infection in women drastically affects children's health and well-being, creating new health obstacles for future generations. Malaria disproportionately affects women (pregnant women are especially vulnerable), and similarly STDs, the tropical parasitic disease Schistosomiasis and Mycobacterium tuberculosis infection. With these evidences the renewed call for women health must be more vigorous than ever before globally and regionally.

The summit objectives

The main objectives of the UNESCO MARS 2016 Summit will be the following:

1. Build research capacity in the African (scientific) health research community with special focus on women health and emergent infectious diseases;
2. Showcase innovative research taking place in projects, programs and initiatives across African universities and institutes and the wider African research community;
3. Discuss challenges, opportunities and proposed strategies to support health decision making in low and middle income countries;
4. Empowering African Young Researchers and Women Researchers⁵ and advance their research capacity and promote their contribution to STEM⁶.
5. Provide networking opportunities to strength the scientific community and their impact on African society and media communication, where they exchange experiences, knowledge, and best practice and establish cooperation for future research and development projects.

⁵ Just 28% of the world's researchers are women. While a growing number of women are enrolling in university, many opt out at the highest levels required for a research career. But a closer look at the data reveals some surprising exceptions. For example, in Bolivia, women account for 63% researchers, compared to France with a rate of 26% or Ethiopia at 13% .

⁶ Science, Technology, Engineering & Mathematics (STEM)

Areas of Reflection

UNESCO-MARS 2016 is a perfect occasion to understand the *state-of-art* of women's health related research, planting the seed for potential collaborations – endogenous or exogenous, national or international - among African research institutes; the following are the areas of reflection:

- Women vulnerability to infections;
- Zika virus infection;
- AIDS, Malaria, Ebola;
- STDs, Human Papillomavirus and Cancer in Women;
- Infectious disease and infertility;
- International standards and Ethics for a resilient health system.

Participants/Speakers

Diverse sets of speakers from academia, research institutions, major funding organizations on Health/Medical research, chairs of medical research councils, NGOs, industry, established and emerging researchers, policy makers, Ministers of Health/Science from the AU Member States among others.

UNESCO-MARS 2016 will bring together up to 100 researchers who will be sponsored by Merck to attend the Summit. Their selection will be based on their abstract submission.

Abstracts are invited from final year PhD students and young investigators involved in research related to **Infectious Diseases with the aim to improve Women Health**. All should be primarily based at African research institutes and universities, collaboration within Africa as well as outside is encouraged.

All abstracts will be peer reviewed and **100 winners will be eligible for Sponsorship**.

First three winners will be eligible for further number of **Research Awards**.

Further Research Award will be dedicated for Best African Women Researchers.

SUMMIT WORK ORGANIZATION

The two days Summit will be organized in accordance with the following modalities upon which its work programme and agenda to be developed.

1. The Summit will be organized through sets of keynotes, panel discussions, poster sessions and workshops. The sessions will revolve around the following themes:
 - Identifying research priorities for evolving health needs;
 - Enhancing policy environment and mechanisms to support research translation in Africa;
 - Networking opportunities to strengthen the scientific community and their impact on African society and media communication;
2. Launching of the **Best African Woman Researcher Award**; to recognize the outstanding contribution of women researchers/scientists with the aim to promote women in STEM (Science, Technology, Engineering and Mathematics).

ORGANIZERS AND PARTNER INSTITUTIONS

UNESCO-MARS 2016 will be organized by UNESCO and Merck and co-organized by the African Union Scientific, Technical and Research Commission (AU-STRC), while it will be scientifically supported by UNESCO, the University of Cambridge (UK), and University of Rome (Italy) , Institute Pasteur International and Merck .

TO READ MORE ABOUT:

Potential areas of reflection

Zika virus infection

In the middle of the last century, Zika virus was known to occur within the equatorial belt from the African to the Asian continent. In 2015, Zika virus outbreak reached pandemic levels, particularly after its outbreak in North and South America. Zika can be potentially spread by sex and blood transfusions, and has been linked to miscarriage and microcephaly in pregnant

women. The emerging issue is that the cause of the association of Zika fever in pregnant women and microcephaly is unknown. Moreover, Zika virus is one of the potential causes of the Guillain-Barré syndrome in adults.

Furthermore, there are distinct lineages of the Zika virus: the Asian lineage that is phylogenetically closely related to the virus circulating in the Americas, and the African lineage that consists of two clades from East and West Africa. Studies show that Western hemisphere Zika virus is 89% identical to African genotypes. For this reason, through the possibility of giving voice to a plurality of international actors, it will be possible through the delivery of addresses and the creation of side events to share interesting areas of reflection on a very heterogeneous issue.

AIDS, Malaria, Ebola in Women

The HIV/AIDS mother-to-child infection is still very frequent in Africa (5-10%), although the treatment for HIV-pregnant women is mostly accessible. Most of the countries have developed good clinical practice, early diagnosis of infected children, and early treatment. However, underlying HIV infection still complicates the diagnosis of other infectious disease like pneumococcal meningitis. Malaria causes serious illness in children under 5 years of age and in pregnant women. During pregnancy, Malaria is a major cause of maternal morbidity. Furthermore, pregnant women, despite of non-gravid women, are more vulnerable to complications caused by malaria infection. Actually, prevention focuses on mosquito avoidance and chemoprophylaxis. Each year, 100,000 infants die due to pregnancy-related malaria and almost 125 million pregnant women risk contracting pregnancy-associated malaria every year. In the West Africa 2014-2015 Ebola virus Disease outbreak for the first time it has been observed that Ebola can be transmitted by semen and by breast-milk many months after the infection, not only by survivors but also by asymptomatic people.

Are women more vulnerable to infections?

Sabra Klein, immunologist at the John Hopkins Bloomberg School of Public Health in Baltimore, Maryland, highlighted that women are more susceptible to disease and death from infectious pathogens. In fact, women generally suffer more severe flu symptoms than men; moreover, women are often less likely than men to get vaccinated against flu. This example shows that UNESCO-MARS 2016 could be the perfect occasion to understand the *state-of-art* of women's health related research, planting the seed for potential collaborations – endogenous or exogenous, national or international - among African research institutes.

STDs, Human Papillomavirus and Cancer in Women

UNESCO-MARS 2016 will open the door to the difficult subject of sexually transmitted infections (STIs) and women. Furthermore, it will be interesting to investigate which sexually transmitted diseases (STDs) are more frequent among women, in order to find interesting paths for further investigations. Moreover, special focus will be on the Human papillomavirus (HPV). Scientists identified 170 types of HPV, with almost 40 are associated to anogenital contacts/transmissions. High-risk HPV infections are associated with cervical cancer; in 2012, more than 500,000 patients were affected by cervical cancers resulting in approximately 266,000 patient deaths. Almost 80% of cervical cancer cases affect people living in developing countries. It is crucial to understand the new challenges of prevention strategies, such as the utilization of new vaccines, and the most efficient approaches for providing training on HPV infections.

Infectious disease and infertility:

According to WHO data more than 180 million couples in developing countries (which one in every four couples) suffer from primary or secondary infertility. Infertility in Africa is caused by infections in over 85% of women compared to 33% worldwide which emphasize the importance of prevention programs in Africa.

Lower levels of development are thought to be associated with higher levels of non-genetic and preventable causes of infertility such as poor nutrition, untreated sexually transmitted infections (STIs), unsafe abortion, consequence of infections caused by the practice of female genital mutilation, exposure to smoking and exposure to leaded petrol and other environmental pollutants.

In many cultures, barren women suffer discrimination, stigma and ostracism. An inability to have a child or to become pregnant can result in being greatly ostracized, isolated, disinherited or assaulted. This may result in denial access to family traditions, divorce or physical and