

# The first pain and palliative care unit in mozambique: how it all began?

## Abstract

**Background:** Access to health care is a major challenge in low- and middle-income countries. Despite its limitation in Africa, countries such as Uganda, South Africa and Kenya top the list with the largest number of specialist hospices. Although there are Palliative Care (PC) Policies in Mozambique since 2012 which are approved by the Ministry of Health that provide for the integration of this care at all levels. However, there was no integration into the National Health System, until 2017.

One of the necessary measures for the development of PC in a country is the integration of PC into the structure and financing of the National Health System. The process of implementing PC in Mozambique began in 2009 with the creation of the Mozambican Palliative Care's Association, PC Policies, the Curriculum Design and PC Reference Manual in 2012, and the Mozambican Pain Study Association in 2013. In response to the progressive increase in HIV/AIDS patients, and particularly those with cancer with palliative needs and suffering. In the main hospital of the country, in the Pain Unit, Palliative Care Service was opened in September 2019 resulting in the Pain and Palliative Care Unit. It has multidisciplinary specialized professionals team, the first in Portuguese-speaking African countries. However, the similarity to many other countries with few resources, access and availability of opioids was a harsh reality.

**Conclusion:** Mozambique was the first Portuguese-speaking African Country to create a Pain and Palliative Care Unit with a specialized team. However, access and availability of opioid drugs is one of the major challenges.

**Keywords:** pain, palliative care, low-and middle-income countries

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**Abbreviations:** AIDS, acquired immune deficiency syndrome; AMED, mozambican pain study association; APCA, African palliative care association; DSF, douleur sans frontières; FCG, fundação calouste gulbenkian; HIV, human immunodeficiency virus; MCH, maputo central hospital; MOPCA, mozambique palliative care association; PALOPs, países Africanos de lingua oficial portuguesa; PC, palliative care

In 1996, the World Health Organization established four necessary measures for the development of PC (you have already put short name) focusing on public health: 1) a government policy that ensures the integration of PC into the structure and financing of the National Health System; 2) an educational policy that responds to the training of volunteer, family caregiver, media, healthcare providers, trainees, palliative care experts, health professionals and the public curricula and courses; 3) a drug policy that ensures the availability of essential drugs for the management of pain and other psychological symptoms and disorders, in particular opioid analgesics and 4) a policy for research into assessing the needs for palliative care and identifying standards and models of service that work, particularly in limited resource settings.<sup>1</sup>

Access to health care is a major challenge in low-and middle-income countries. According to the World Hospice and Palliative Care Alliance (WHPCA), the majority of people living with HIV/AIDS who need palliative care are in Africa with 78% of adult patients.<sup>2</sup> PC is limited in Africa, however countries such as Uganda, South Africa and Kenya top the list with the largest number of hospice specialists and hospices.<sup>3</sup>

Mozambique was in the embryonic phase of PC implementation after the creation of the Mozambican PC Association in 2009, PC Policies, the Curriculum Design and PC Reference Manual in 2012 (with support from the African Palliative Care Association -APCA)<sup>4</sup> and the Mozambican Pain Study Association in 2013. Together with Rwanda, Swaziland, Tanzania, Zimbabwe and Malawi, Mozambique is one of 6 African countries that have isolated provision of palliative care systems.<sup>3</sup> In 2007, the WHO established 4 required basic pillars for cancer control: prevention which are early detection, diagnosis, treatment and, the PC's provision. Mozambique had the first 3 pillars already implemented since 2013, however it did not have provide for palliative care. Maputo Central Hospital is the biggest and is also the reference hospital in the country. In 2019, HIV/SIDA and cancer were the first and second main causes of mortality respectively. However, patients were suffering due to the absence of a service with trained and specialized team in palliative care to assist in palliative stage.<sup>5</sup>

**Mozambique:** geographic location and socio-demographic data Officially designated as the Republic of Mozambique, the country is located in the southeast of the African continent, is bathed by the Indian Ocean to the east and borders Tanzania to the north, Malawi and Zambia to the northwest, Zimbabwe to the west and Swaziland and South Africa to the southwest. The country's capital is Maputo.

It has a territorial extension of 799,380 km<sup>2</sup>, a population of 29 million and life expectancy of 53.7 years. The age structure of the population is mostly young (47% under 15 years, 45% between 50-64 years) characterized by a broad base due to the high proportion

of young population and a narrowing at the top due to a smaller proportion of the geriatric population (3% over 65 years old). About 69.6% of the population lives in rural areas, 54.7% of the population lives in poverty and 44.9% are illiterate.<sup>6</sup>

### Health network

The country has 1647 health units, a health coverage of 68.3%, 60% of the population are dependent on traditional medicine. The Republic of Mozambique has a coverage of 1 doctor/11494 and 1 nurse/3509 inhabitants. The levels of care provision range from primary to quaternary, where 88% of health coverage are in health centers.<sup>7</sup> The Maputo Central Hospital (MCH) has been in existence for more than 100 years, it is located in the capital of the country. The hospital is a specialty referral national hospital, it provides teaching and undertakes research. It has 1,500 beds and a total of 3,800 health professionals - including 677 doctors and 823 nurses.<sup>5</sup> The incidence of cancer has been increasing in Mozambique: about 25,631 new cases of cancer and 17,813 cancer deaths occurred in 2018.<sup>8</sup> In MCH, AIDS and cancer were the 1st and 2nd leading cause of mortality in Maputo Central Hospital in 2019.<sup>5</sup>

### The pain unit's history

The implementation of the first Pain Unit in Mozambique, started in 1997 when the Pain Office at the Eduardo Mondlane University, Faculty of Medicine was created, with the support of the Douleur Sans Frontières (DSF). The main objective of the office were pain training and research focused on neuropathic pain in amputees, mostly focusing on victims of war mines.<sup>9</sup>

In 2001, pain consultation started at MCH, it was linked to the Pain Office of the Medical School, and the Anesthesiology Service. The pain consultation follows up on the patients who take part in the research, it has extended this consultation to other specialties (orthopedics, dermatology, oncology, gynecology and surgery).<sup>9</sup> The Pain Unit opened in June 2007 as an independent service, due to the need to have its own physical space, available multidisciplinary team and appropriate statute, it became a national reference for pain relief. The main objectives of the unit were: 1) to provide health care to patients with chronic oncologic and non-oncologic pain, whether inpatient or outpatient; 2) to build health teams at all levels and 3) research. Its physical structure has 2 main areas: administrative and clinical/assistance area with 3 offices and 1 library, 3 consulting rooms, 1 waiting room, 1 treatment room with 4 beds, and other services. The initial multidisciplinary team consisted of 2 anesthesiologists, 1 neurologist, 1 psychologist, 1 social worker, 2 nurses and 1 administrative officer.<sup>10-12</sup>

In September 2019, the PC Service opened at the Pain Unit. Itarised in response to the progressive increase of the oncologic patients who needed total pain and suffering relief in our Pain Unit. With a partnership between MCH (Mozambique), Calouste Gulbenkian Foundation (Portugal) and DSF (France) in different projects, many professionals were trained in pain and PC. The team increased with 3 more doctors, 2 of them general practitioners and 1 specialist in anesthesia and pain management, a psychologist and 2 administrative assistants. Currently, there are 2 treatment rooms in rehabilitation with 10 beds for adults and 4 beds for pediatric patients. At the Pain and PC Unit, the following activities were performed daily: consultations, telephone assistance home based care, intra-hospital PC support and psychology appointments.

### Clinical assistance area

A total of 2500 consultations were carried out during 2019, of which 22% correspond to the first consultations. Of these, nearly 40% of the consultations were oncology patients in palliative care, mainly from Gynecology and Oncology service, in outpatient and inpatient. Female remain the largest percentage of the total consultations with 71%. The main techniques used for pain control are: epidural infiltration, Patient Controlled Analgesia, echoguided blocks, Transcutaneous Neuro-Stimulation, trigger points, ozone therapy, acupuncture, massage, moxotherapy, ventosa therapy and auriculotherapy mainly for acute pain and non-oncologic chronic pain control.

Psychology consultations, home based care and social assistance are also part of the assistance area.

The main challenge, mainly for cancer patients was the limited access and availability of essential medicines particularly opioids.<sup>12</sup> From 2012-2019, cancer pain represented 14% of consultations and in 2019<sup>13</sup> it increased to 40%, of patients in consultations, and access and availability of opioids tends to worsen by irregular supply. The trainings in Pain and PC modules were progressively introduced in the medical course curriculum for technicians, nurses, residents in anesthesiology, psychiatrists and doctors from different hospitals of the country.

### Palliative care in Africa and main limitations

One of the main challenges in most African countries is the lack of funding for PC, low availability of resources, the lack of essential medicines, particularly morphine. In these countries, opioid had < 1mg consumption/capita/year, with the highest consumption in Mauritius, South Africa, Namibia and Tanzania, compared to the global average 34 mg/capita/year.<sup>14,15</sup> Other limiting factors involve lack of training and education related to basic concepts of PC, absence of curricular programs in PC in educational institutions<sup>16</sup> and most of these factors, which are mentioned by the WHO, as conditioning factors for the development of PC, do not exist in these countries. Pediatric Palliative Care in Africa is most developed in South Africa, Nigeria and Malawi and for adults in developed in Uganda, South Africa and Kenya. The top 3 countries with inpatient conditions and staff trained for CP patients are: Swaziland (100%), Gambia (83%) and Uganda (20%).<sup>17</sup>

### Palliative care in African portuguese-speaking countries

From the 5 African countries with Portuguese as official language, and without any information from Guinea Bissau, Mozambique was the only country with a stand-alone national PC Program (2012), National Cancer Programme that include PC (2017), with the existence of a National Association for PC and with professionals (doctors, nurses and psychologists) trained and specialized in pain and palliative care including pediatricians. In São Tomé & Príncipe, PC is available at the Central Hospital, in the inpatient district health centers and at the Health Posts and is practiced by nurses, doctors, or other health care professionals, however, without specialized PC teams. Mozambique has a specialized PC team, however, palliative actions are carried out by different professionals, part of them with basic training in palliative care.

None of these Portuguese-speaking African Countries including Mozambique had hospitals with an inpatient Palliative Care Unit with

specialized team. Mozambique, Cabo Verde, São Tomé & Príncipe and Angolado not have PC in their HIV Programs, National PC clinical guidelines, a Person/desk/unit in the Ministry of Health with PC responsibility, neither funding for PC in the National Health budget. However, they all have in common: the limited access of opioids for symptomatic control. In Mozambique all doctors can prescribe opioids however, not all of them feel comfortable doing so due to the lack of sufficient training, at the Pain and Palliative Care Unit, specialized nurses can prescribe, if necessary.<sup>16,17</sup>

In São Tomé & Príncipe, morphine is restricted for hospital use and by tertiary health care centers, the law allows family doctors to prescribe it, but access is limited to the referral hospital in specific departments. In Uganda, there is a policy allowing for trained nurses to prescribe, though in a few countries, there is no official law for nurse prescribing.<sup>17</sup>

## Conclusion

Mozambique was the first Portuguese-speaking African country to create a Pain and PC Service with advanced pain relief techniques. There are two associations, one for the Study of Pain and another for Palliative Care. There are also Policies, Curriculum, a PC reference Manual and high-level trained professionals. However, access and availability to opioids is very limited and have limited patient coverage.

## Declarations

### Ethics approval

The study was approved by the Institutional Committee of Bioethics for Health of the Faculty of Medicine & Maputo Central Hospital with number CIBS FM&HCM/08/2018 and by the Bioethics Committee of the Faculty of Medicine of the University of Porto.

Availability of data and materials (not applicable).

## Competing of interest

None.

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## Authors' contributions

All authors had the responsibility of conception and design the study, revising it critically for important intellectual content, final approval of the version to be published and agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy.

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