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SPECIAL REPORT

Paediatric oncology physiotherapy in Africa: International Society of Paediatric Oncology (SIOP) Global Mapping Programme

Ebuka Miracle Anieto[1,2] | **Precious Madzimbe**[3] | **Joanne Potterton**[3] | **Pia Delano**[4] | **Prince Makupe**[5] | **Jennifer Geel**[6] | **Neil Ranasinghe**[7] | **Julia Challinor**[8] | **Abu Sidhanee**[9]

[1]School of Allied Health Sciences, University of Suffolk, Ipswich, UK

[2]Department of Physiotherapy and Paramedicine, Glasgow Caledonian University, Scotland, UK

[3]Department of Physiotherapy, School of Therapeutic Sciences, Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, South Africa

[4]Center for Research in Occupational Health (CISAL), Universitat Pompeu Fabra, Barcelona, Spain

[5]Physiotherapy Department, Kamuzu Central Hospital, Lilongwe, Malawi

[6]Division of Paediatric Haematology and Oncology, Department of Paediatrics and Child Health, Faculty of Health Sciences, School of Clinical Medicine, University of the Witwatersrand, Johannesburg, South Africa

[7]Lead Technical Author, Capital Markets, London Stock Exchange Group, London, UK

[8]School of Nursing, University of California San Francisco, San Francisco, California, USA

[9]Division of Physiotherapy, Institute of Health and Social Care, London South Bank University, London, UK

Correspondence
Ebuka Miracle Anieto, School of Allied Health Sciences, University of Suffolk, Ipswich, UK.
Email: e.anieto@uos.ac.uk

Abstract

Childhood cancer treatment in Africa has a dramatically increasing patient population resulting in greater rehabilitation needs. The International Society of Paediatric Oncology (SIOP) mapped childhood cancer services in Africa including access to physiotherapy. Irrespective of income classification, just over two-thirds of countries in Africa reported having access to physiotherapy services in paediatric oncology sites. There is a lack of knowledge about African childhood physiotherapy services. Research is needed to understand the rehabilitation needs of these children/adolescents and how to meet their needs in a globally equitable and sustainable way.

KEYWORDS
Africa, cancer, paediatric oncology, physiotherapy, rehabilitation

1 | INTRODUCTION

Rehabilitation is critical to childhood cancer survivorship for minimizing treatment side effects. According to the World Health Organization (WHO), rehabilitation professionals include but are '…not limited to physiotherapists, occupational therapists, speech and language therapists, and audiologists, orthotists and prosthetists, clinical psychologists, physical medicine and rehabilitation doctors, and rehabilitation

Abbreviations: GICC, Global Initiative for Childhood Cancer; HICs, high-income countries; LMICs, low- or middle-income countries; SIG, special interest group; SIOP, International Society of Paediatric Oncology; WHO, World Health Organization.

nurses'.[1] Not all children/adolescents with cancer can access rehabilitation services during and after cancer treatment. In 2020, rehabilitation specialists at the SIOP Annual Congress formed a special interest group (SIG) to explore expanding rehabilitation services to childhood cancer patients worldwide. SIOP was conducting a Global Mapping Programme in Africa, to identify facilities offering childhood cancer treatment including physiotherapy services. This article reports on the SIOP Global Mapping Programme data on the availability of paediatric oncology physiotherapy services in Africa.

Incidences of childhood cancers in Africa are poorly documented, with few population- or hospital-based registries.[2–5] However, higher numbers of paediatric cancers (4.8% of all cancers) have been reported in Africa compared with high-income countries (HICs) largely because of the large and growing population of children/adolescents.[3,4] As mortality rates decrease, childhood cancer morbidity rates become more apparent.[6] Children/adolescents with cancer receive intensive treatments that often result in negative sequelae,[7,8] including treatment-related issues affecting all domains of life including physical, cognitive and psychosocial well-being.[8,9] These include significant functional limitations and disabilities (e.g., reduced joint range of motion, neuropathy, reduced balance, reduced muscle strength and reduction in activities of daily living).[10–13]

Many adverse effects are successfully rehabilitated[8] with appropriate physiotherapy services.[14] Although physiotherapy benefits children/adolescents with cancer, it remains significantly underutilized.[8] Lack of awareness of the benefits of rehabilitation[15] could be mitigated by adding physiotherapy services advocacy to global childhood cancer initiatives.[16] Improving awareness of physicians, training of rehabilitation professionals and the development of guidelines for referral to rehabilitation services for childhood cancer patients and survivors may improve referral rates, even in HICs.[17]

Many low- and middle-income countries (LMICs) lack rehabilitation professionals and services, as well as facilities for children/adolescents with long-term care needs.[16] Nevertheless, the WHO Global Initiative for Childhood Cancer (GICC) CureAll Framework notes that rehabilitation is one of the two components of Universal Health Care: 'a political commitment made by all governments as part of the United Nations 2030 Agenda for Sustainable Development (target 3.8)'.[18] WHO estimates that in LMICs, there are fewer than 10 rehabilitation professionals for every million persons compared with more than 1700 per one million population in HICs.[1,19] We report specifically on available paediatric oncology physiotherapy services in Africa from the SIOP Global Mapping Programme data.[20]

2 | METHODS

2.1 | SIOP Global Mapping Survey in Africa

In November 2018, the SIOP Global Mapping Programme team conducted an electronic mapping survey to document African paediatric oncology services.[20] Details of the survey development and methods were published.[21] The team provided data to three physiotherapists, SIOP members, who formed the SIG, under the SIOP Supportive Care Network. These physiotherapists recruited African colleagues working in paediatric oncology to assist in data analysis. Descriptive statistics, including frequencies and percentages, were used to present the availability of paediatric oncology physiotherapy services in Africa.

3 | RESULTS

SIOP Global Mapping Programme survey respondents included 47 African countries, and 100 sites providing paediatric oncology services were identified. Thirty-six countries (77% of responding countries, and 67% of all 54 countries in Africa) reported having paediatric oncology physiotherapy services (including nonresponses and incomplete data from seven countries) (Figure 1). Data queries did not specify how many physiotherapists were in each service or country nor if physiotherapists were dedicated to paediatric oncology wards or settings. Using the World Bank Income Classification,[22] 67% of respondents from low-income countries, 85% of lower–middle-income countries, and 83% of upper-middle-income countries in Africa reported having physiotherapy services.

4 | DISCUSSION

Although 36 countries reported having paediatric oncology physiotherapy services, nonavailability in other countries may be due to Africa having only 1% of the world's physiotherapists[23] but 18% of the world's population.[24] Training facilities for physiotherapists are not available in every African country.[25] The insufficient training of physiotherapists in Africa and emigration[25] could explain the shortage of paediatric oncology physiotherapy services. While the physiotherapist-to-population ratio is estimated at 49.4 and 64.7 per 100,000 people in Canada and the United States, respectively, it is reported an abysmally low 1.7 and 13 per 100,000 people in Nigeria and South Africa, respectively.[26] Most African nations prioritize nurses' and doctors' services over physiotherapy.[27] Physiotherapy services for children/adolescents with cancer, and survivors, are critical to improving outcomes and quality of life.[28] This shifts the emphasis from just survival to quality survival.[29]

Identifying African countries without paediatric oncology physiotherapy services helps organizations like World Physiotherapy target support and strengthen paediatric oncology physiotherapy services in Africa. Addressing service gaps and training needs of rehabilitation professionals is essential for equitable care. Best practice guidelines should be established, especially in resource-limited settings, and support networks for African physiotherapists strengthened.[30,31] Developing service pathways for appropriate and timely referrals for rehabilitation by various clinicians is also important.

Considering the impact of cancer on the physical health of children/adolescents, physiotherapy should focus on functional activities of daily living, motor deficits, muscle strength, cancer-related fatigue and peripheral neuropathy.[30,32] Investment in physiotherapy

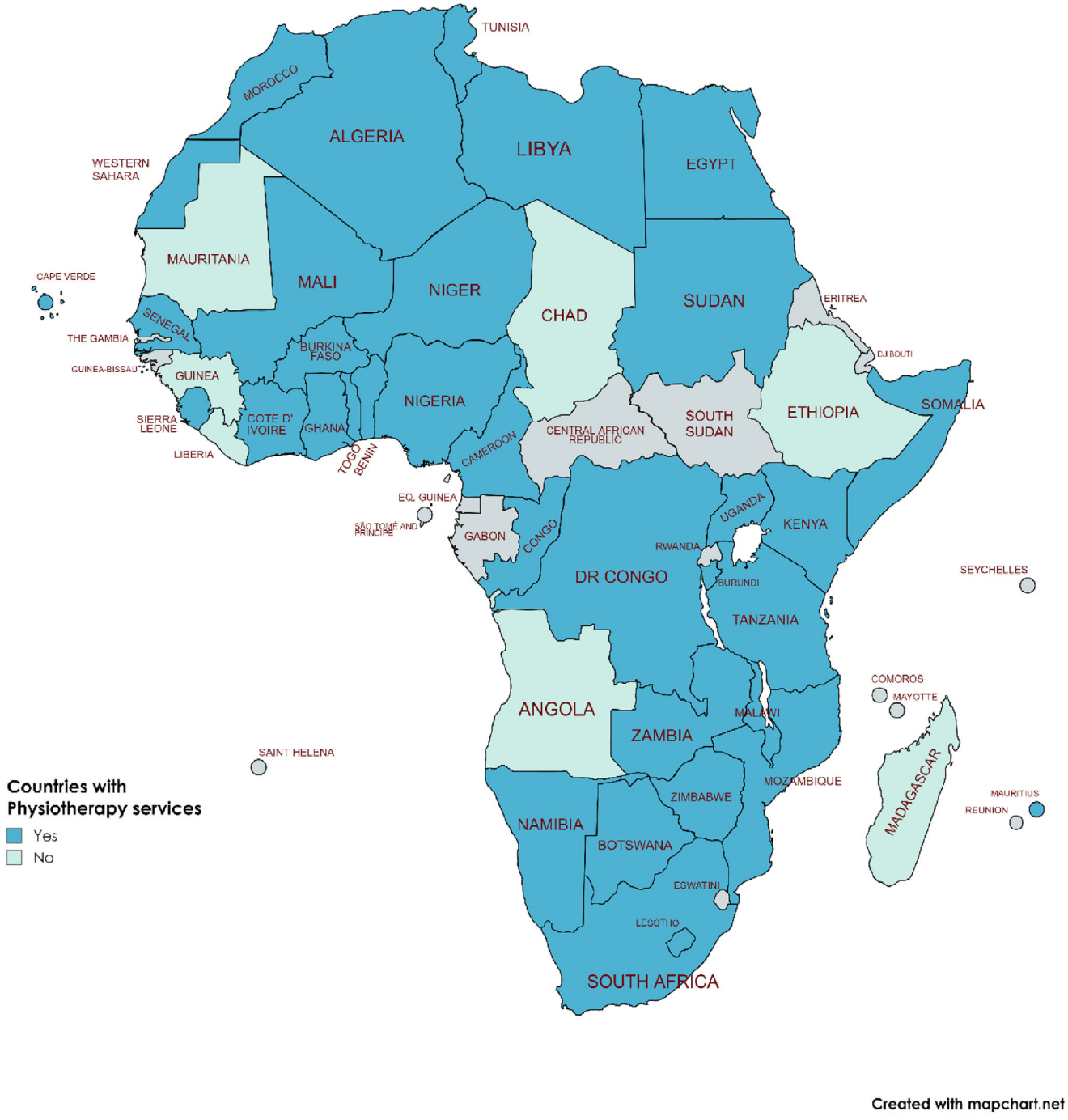

FIGURE 1 The International Society of Paediatric Oncology (SIOP) paediatric oncology facility mapping results for availability of paediatric oncology physiotherapy services on the African continent. Countries with paediatric oncology facilities in Africa reporting availability of physiotherapy services.

education in paediatric oncology is critical to increase capacity in paediatric oncology rehabilitation service provision in Africa.[33] Although in most LMICs, paediatric oncologists and paediatric oncology nurses are in short supply, they can offer support to patients in situations of limited or missing paediatric oncology or paediatric rehabilitation professionals. For example, interventions to address cancer-related fatigue such as physician treatment planning and nursing education on the importance of exercise and good nutrition (including referral to a nutritionist) may be effective. Music, aroma or art therapy sometimes help with fatigue and are low-cost interventions that can be provided in a playroom area by a trained volunteer or childlife specialist, who are now in place in some African countries.[34] Scrupulous vigilance for peripheral neuropathy by physicians may diminish severity by altering their treatment, and assessment and patient/family education by nurses about managing this side effect may improve outcomes.[35] Multidisciplinary and interdisciplinary collaborations are vital for holistic

intervention to children/adolescents on treatment for cancer and survivors.

To address gaps in physiotherapy services for childhood cancer survivors in Africa, our SIG's initial steps involve advocacy programmes aimed at raising awareness among stakeholders about the capacity shortage and supporting the training of rehabilitation professionals. While a Bachelor's degree in physiotherapy or Doctor of Physiotherapy (distinct from doctorate degrees in other healthcare specialties) is the minimum qualification for registration as a physiotherapist, advanced degrees and courses are recommended for expertise and specialization in paediatric oncology rehabilitation.[36] SIG members are involved in the delivery of these physiotherapy programmes, and we plan to optimize their efforts.

The Mapping Survey focused on paediatric oncology physiotherapy availability but did not collect data on training, specialty areas, number of physiotherapists per country, or if they were dedicated to paediatric oncology wards or settings, which are limitations of the study. Despite efforts to improve access by providing the survey in three languages (French, Portuguese and English), individuals without electronic resources or who were absent during paper distribution at conferences may have been missed.

Future research should establish physiotherapist-to-patient ratios for paediatric oncology in Africa to determine if available physiotherapists can meet the demand and provide the necessary quality of care. Additional studies are needed to assess the availability of other paediatric oncology rehabilitation services, for example, occupational and speech therapy, to identify gaps for intervention.

5 | CONCLUSION

Increasing the survival of children/adolescents with cancer is not enough; it is necessary to ensure survivors live productive childhood and adult lives without disabilities related to their cancer and treatment. As the WHO GICC engages with African Ministries of Health and governments to strengthen childhood cancer programmes, it is critical to strengthen rehabilitation professional training and programmes. Africa is not ready to address the needs of the existing and growing childhood cancer population including survivors. Global advances in paediatric oncology care, including rehabilitation services, must be available for all children/adolescents regardless of geographic location and socio-economic status before claiming success in this field. Many African countries follow 'Ubuntu' (I am because we are). Through its principles of humanity, compassion and social responsibility, the needs of the most vulnerable in society can be addressed including children/adolescents with cancer and survivors.[37]

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ORCID

Ebuka Miracle Anieto https://orcid.org/0000-0002-8160-9701
Precious Madzimbe https://orcid.org/0000-0003-2561-9232
Joanne Potterton https://orcid.org/0000-0002-8020-274X
Pia Delano https://orcid.org/0000-0002-3468-5517
Prince Makupe https://orcid.org/0000-0002-5084-5082
Julia Challinor https://orcid.org/0000-0002-5008-8501

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