





## Physiotherapy Intervention in Palliative Care for HIV Comorbidities: Can it be a Best Practice for Public Policy for Palliative Care in Zambia?

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### Abstract

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**Introduction:** The prolonged life expectancy for people living with HIV has led to an increase in the prevalence of people living with HIV and AIDS. Most of these patients are experiencing episodes of wellness and illness with related disability. In Zambia, many HIV patients who required rehabilitation services were not able to access these services. A community based physiotherapy intervention programme using Community Health Workers who were equipped with basic physiotherapy skills was set up in Mtendere and Chawama Townships of Lusaka, Zambia from 2008 to 2015. This study set out to assess the intervention output in relation to patients' trends, process of the intervention and challenges experienced for the period October, 2012 to September, 2014.

**Methods:** This evaluation reviewed monthly and annual reports of the programme from October, 2012 to September, 2014. A desk review of palliative care related reports and policy was also reviewed. Both qualitative and quantitative data was extracted from these reports, with quantitative data being analyzed using excel while qualitative data was analysed using QSR NVIVO 10 after being transcribed and translated from texts.

**Results:** The patients' trends during this period showed a steady increase in the proportion of new patients being enrolled onto the programme compared to those who were being lost to follow up, death, discharge or other loss such as transfers and many others. Themes under qualitative analysis were Community Health Workers, procurements, service delivery programme challenges and palliative care policy. The programme planned to conduct two trainings for each of the years under review but only managed one in each year. There were many challenges identified under this programme and all of them bordered on inconsistencies in the release of funds.

**Conclusion:** This evaluation shows that the prevalence of HIV patients presenting with disabling conditions has been increasing and there is need to provide the needed rehabilitation services through the community based programme. Using Community Health Workers to provide physiotherapy services in the community enables many patients to access these services and hence a policy that supports this would be ideal.

**Keywords:** *palliative care; physiotherapy; HIV comorbidity; public policy*

## Introduction

With the introduction of antiretroviral drugs, HIV disease is now viewed as a chronic long term illness rather than a terminal illness [1]. Many patients are living with the health related consequences which include disability, impairment, difficulties in carrying out day-to-day activities, challenges with social inclusion and uncertainty about the future [2] (O'Brien, et al., The multiple episodes of sickness compound the challenges that these patients face with greater health related encounters when combined with aging. Despite the improvement in the prognosis of HIV patients, they face many challenges that prevent them from fully participating in Activities of Daily Living (ADLs) as well as wider community participation [3]. The HIV infection is complicated by side effects of its drugs, affecting multiple systems in the body resulting in multi-systemic comorbidities that are characterized by episodes of illness and wellness [1].

In order to effectively manage HIV patients presenting with multiple burdens of illness, the WHO policy on Palliative Care (PC) emphasizes that PC should be incorporated as appropriate at every stage of HIV disease alongside ART and not as a substitute [4]. Furthermore, PC should not be introduced at the end of life when the patient is dying but should be integrated into comprehensive care and support from diagnosis to the end of life [5]. Palliative care as part of a multidisciplinary patient care approach is growing at a fast pace globally, but still a lot more people do not get help when afflicted with symptoms of pain owing most to lack of policies around PC for health care providers. [1].

Physiotherapy is an essential component of a multidisciplinary PC team as it emphasizes on improving function and quality of life (QOL) of people who are considered to require physical and functional dimensions of care.[3,4] Physical dimension in physiotherapy includes pain and symptom control, management of physical findings such as mobility, strength, flexibility, endurance, deformity, coordination, balance, gait, breathing, exercise tolerance and energy expenditure.[5] Symptom control by

physiotherapy is applicable in patients with commonest symptoms which require PC such as pain, weakness, cough and breathlessness.[6]

One of the most widely read books in PC, the Oxford Textbook of Palliative Medicine, states that; Physiotherapy aims to “optimize the patient’s level of physical function and takes into consideration the interplay between the physical, psychological, social and vocational domains of function... The Physiotherapist understands the patient’s underlying pathological condition, but this is not the focus of treatment. The focus of physiotherapy intervention is, instead, the physical and functional sequelae of the disease and/or its treatment, on the patient.”[4]

Doyle elaborately states that, “No one professional can deal with the many problems which are encountered in palliative care.” The ideal core team which was proposed by him included a Physiotherapist [7]. Based on this premise, it can be a milestone if this is enshrined in public policy so that Physiotherapists extend care to this paradigm. This is also so because it is a moral and ethical responsibility that patients needing care are cared for. Hence, this paper could set a tone on the physiotherapy profession to strive in the direction of making PC a public policy of care for vulnerable communities. This may also help the physiotherapy profession in Zambia to realign the physiotherapy curriculum so that physiotherapy graduates acquire competence to fit in as responsible members of the PC team.

For physiotherapy graduates, understanding the beneficial effects of exercise and physical activity for HIV comorbidity, the expanding role of physiotherapy in PC will consequently lead to a rapid growth of evidence. Physiotherapy intervention in PC entails use of modalities ranging from using heat, cold, and transcutaneous electrical nerve stimulation (TENS) for alleviating pain; teaching ADLs that are congruent to the strength and body mechanical capabilities of individual patients. [8]. The irony of the success of the scope of PC in inclusion of the care within a public policy requires experts to advance the notion thereof. Comparative studies of PC services in different countries can be used to advance policy-making, but to do so they need to capture the complexities of provision and be grounded in social science models [8]. Such research also

needs to consider how and whether services meet needs along the trajectory of the illness [9].

Palliative care policies in physiotherapy may be helpful in addressing uneven access, for example a policy on universal screening for PC needs may help identify those that may require the service. The goal of screening is to identify patients with a high burden of symptoms, family distress, or poor life expectancy and these are usually predicated mostly by HIV comorbidities and non-communicable diseases. Those afflicted might benefit from the addition of PC. For example, the “surprise” question “*Would I be surprised if this patient died in the next year?*” has been validated in a variety of populations including patients with ESRD [10, 11].

Physiotherapy in PC has been found to positively influence the QOL and perceived well-being in a range of PC populations, including cancer, HIV, neurological disorders, cardiopulmonary conditions and mental illness. [12] Palliative Care Physiotherapy Specialists demonstrate extensive knowledge and vast experience working with life-limiting illnesses, with competency responding to rapidly changing situations. [13]

Despite potential benefits of PC physiotherapy, evidence suggests insufficient PC for patients receiving physiotherapy treatment in Zambia. [14] As it is not a public health policy, specialist PC teams may be failing to deliver patient-centred care. [43] Physiotherapy role and aim is to maintain QOL, while alleviating stress from symptoms in particular, pain and effects from treatment.

In addressing this commonly altered understanding of PC physiotherapy on effectiveness in addressing HIV comorbidities, this embedded study (Physiotherapy in Palliative Care Programme - PPCP of 2008 to 2015) whose goal was to provide physiotherapy services to HIV patients on HAART who presented with activity limitations and participation restrictions at the Mtendere and Chawama ART Clinics, Lusaka. The programme also intended to improve physical health and QOL of HIV patients on HAART at the earlier mentioned two health centres. In order to achieve this the programme aimed at increasing capacity of physiotherapy staff at Mtendere and Chawama urban Health Centres through workshops and by training 60 Community Health Workers (CHWs) and increasing the number of service accessibility

for HIV patients on HAART at both centres. The attendance needed to rise from 10% to 50% by the end of five years after programme inception. The last objective was to reduce the prevalence of disabling conditions among HIV patients on HAART from 70% to 10% by the end of five years.

## Materials and Methods

### Design and setting

A mixed methods research design was used for the research question to find the most suitable methods, a combination of qualitative and quantitative investigative perspectives (both positivist and constructivist paradigms). The question at the centre was the best combination of methods to be used to answer the above (17). The Sequential Explanatory Design was adopted in this study. This method is a two phase design where the quantitative data is collected first followed by qualitative data collection. The purpose is to use the qualitative results to further explain and interpret the findings from the quantitative phase. The qualitative part utilized the Interpretative Phenomenological Approach (IPA). This is because in IPA we are interested in identifying what matters to participants, and then exploring what these things mean to participants [18]. The quantitative study utilized a cross sectional non-interventional descriptive study. The Physiotherapy in Palliative Care intervention programme was carried out in Chawama and Mtendere Townships in Lusaka from 2008 to 2015 with the help of Community Health Workers.

Some of the activities included training of CHWs, developing CHWs manual, enrolling HIV patients onto the community based physiotherapy programme and providing home based physiotherapy services to HIV patients who presented with activity limitations and participation restrictions. At the beginning of the programme, 30 CHWs from within Mtendere Township were engaged and later another 30 at the Chawama site. These CHWs were existing personnel attached to the ART Clinics of the two health facilities. They were then trained in basic physiotherapy skills which covered both theory and practical sessions. The follow up or refresher training were scheduled to be taking place at least twice in a year. After the training, each CHW was provided with a kit comprising necessities like a bag, surgical

gloves, massage oil, hand sanitizer, antiseptic powder, cotton wool, cotton bandages, methylated spirit and other essentials to be used when treating patients. The perishable supplies were replenished every quarter. In addition to the kits, branded T-shirts and identity cards were provided to CHWs for identification purposes. Other provisions were umbrellas and flat walking shoes. The programme was managed by six Physiotherapists and assisted by 60 CHWs.

Each Physiotherapist was assigned four to nine CHWs and a schedule for community visits of at least twice a week was devised. During each visit, patients who were not bed ridden would be ferried to and from the health facilities, and back to their homes using the programme bus. The CHWs provided service to the patients under the supervision of a Physiotherapist. The treatment sessions would last for two hours. In the preceding week's visit, the Physiotherapist would with the help of CHWs attend to about 2 to 3 bed ridden patients in their homes. On days when the group Physiotherapist would not be scheduled for a visit, CHWs independently conducted home visits to bed ridden patients and the rest of the patients in their catchment area to provide basic physiotherapy services. These basic Physiotherapy services included passive movements, assisted and active exercises, mobilising the patients out of bed, pain management and ensuring lung hygiene. The indicators for this evaluation were determined by the available data which in this case are monthly and annual reports for the programme (Bertrand, Magnani, & Rutenberg, 1996).

#### **Data collection and Analysis**

The quantitative part utilized a review of the data collected for a period under review of the PPCP. The data had a number of missing entries of some variables as well as missing data for certain months and years, and multiple imputation was used to remedy errors that may arise from this data. In comprehensive remedy a qualitative component was carried out as well as a review of PC policy related documents online. Ultimately data used is from the routine data that was collected using the criteria of the programme.

Key Informants In-depth Interviews (KII) were conducted on two Physiotherapists who served on the programme and were

resident Physiotherapists at the two sites. The key informant in-depth interview explored perceptions of physiotherapy palliative care effectiveness for patients with HIV comorbidities and whether it should be part of practice within the realm of care in Zambia. These questions helped researchers explore aspects of how effective physiotherapy in PC has been using the programme as a proxy to establish a landscape analysis of its inclusion in the continuum of care. KII were used as a semi-structured format to interview two Physiotherapists from the University of Zambia who worked on the programme. Qualitative gathered information on whether physiotherapy in PC could be a best practice for HIV comorbidities was the main focus of the question asked to these participants.

#### **Quantitative data analysis**

Quantitative data was analyzed with Stata (Stata Corporation, TX, USA) statistical software version 14. The outcome variable was captured in categorical form (the treatment outcome of the physiotherapy intervention). Continuous explanatory variables that were right skewed were log-transformed to obtain more symmetrical distributions for the purpose of parametric statistical tests. Also continuous variables were not categorized to avoid inflating a type 1 error and residual confounding.

Descriptive statistics, such as means or medians and standard deviation or interquartile range were used to describe continuous variables (the choice depending on the distributions). For categorical variables, frequencies and percentages were calculated.

#### **Qualitative data analysis**

For qualitative data, transcript-based analysis of the data is considered to be the most rigorous choice for analyzing the information generated during the focus group discussions [15]. The general analysis plan included identifying the major themes, considering the choice and meaning of the words used to describe each individual's experience, and considering the context and consistency of individual responses. To maximize validity, all transcripts were analyzed by an independent blinded reviewer followed by independent reviews by the Principal Investigator as well as a member of the PC team. The thematic areas were then verified through a joint meeting, and consensus

was met among all three reviewers.

The transcribed and translated texts were entered into QSR NVIVO 10, an electronic programme for qualitative data management. The analysis of the interviews, FGDs and open-ended questions followed a classical approach employing Malterud's 'Systematic text condensation', a descriptive and exploratory method for thematic cross-case analysis drawing upon Giorgi's psychological phenomenological analysis [11, 14, 16]. It is a strategy for analysis developed from traditions shared by other methods for analysis of qualitative data. Systematic text condensation consists of the following four steps: 1) total impression - from chaos to themes; 2) identifying and sorting meaning units - from themes to codes; 3) condensation - from code to meaning; 4) synthesizing - from condensation to descriptions and concepts. Subsequently, the researcher responsible for analysis of qualitative data familiarized himself with the transcripts by reading and re-reading them to enable a clear understanding of the data and to facilitate the development of codes. The coding process was based on key themes which were constructs identified before data collection from the literature review and experience of the researchers. For quality control in coding, an inter-coder agreement was achieved through the supervisor reading transcripts that had been coded by the researchers. Through the inter-coding reliability process, the definitions were refined as needed for better clarity.

## Results

The findings of this study showed that most of these patients presented with neuropathic pain or other impairments that led to their activity limitations or participation restrictions. Furthermore, many patients were out of employment due to functional inabilities

and many were totally dependent on caregivers for their activities of daily living. Despite these problems, many patients were not attending physiotherapy services. These problems compromise the quality of life of the affected patients and as noted by Rusck et al. [17], social exclusion due to participation restrictions can contribute to mental function impairments.

During the period October 2012 to September 2014, there were a total of 1, 608 patients who were attended to under the community based physiotherapy programme. Figure 1 shows the trends in patients managed during the said period. The average number of new patients enrolled per month during this period was 33 and the highest number of patients enrolled was 38 which was in August, 2013. In relation to mortality, average patients who died per month was 5, with June 2013 recording the highest number of deaths which was 8. The average number of patients discharged per month during the 2012 to 2013 period was 2, with four months recording no discharge at all during the said period. Table 1 and 2 as well as figure 1 and 2 shows the distribution and trends in patients seen.



**Table 1: Master Sheet of Quantitative Data Obtained from PC Mtendere and Chawama Annual Reports 2012 TO 2013**

Month	Old patients	New patients	died	lost contact	Discharged	total № of patients	Sex		Active patients on register
							M	F	
Oct 2012	983	29	06	00	00	1012	500	506	1006
Nov 2012	1006	31	05	03	04	1037	510	515	1025
Dec 2012	1025	27	05	03	01	1052	523	520	1043
Jan 2013	1043	31	05	01	00	1074	538	530	1068
Feb 2013	1068	33	05	04	03	1101	543	546	1089
Mar 2013	1089	39	03	00	00	1128	560	565	1125
Apr 2013	1125	36	08	02	00	1161	575	576	1151
May 2013	1151	36	05	05	04	1187	579	594	1173
Jun 2013	1173	28	08	01	02	1201	582	608	1190
Jul 2013	1190	34	04	00	03	1224	607	610	1217
Aug 2013	1217	38	06	04	01	1255	620	624	1244
Sep 2013	1244	30	03	01	00	1274	630	640	1270

**Table 2: MASTER SHEET OF QUANTITATIVE DATA OBTAINED FROM ANNUAL REPORTS**

2013 TO 2014

Month	Old patients	New patients	Died	Lost to contact	Discharged	Total № of patients	Sex		Active Patients On Register
							M	F	
OCT 2013	1270	36	09	01	01	1306	645	650	1295
Nov 2013	1295	23	05	00	00	1318	655	658	1313
Dec 2013	1313	22	11	03	01	1335	659	661	1320
Jan 2014	1320	30	03	02	01	1350	666	678	1344
Feb 2014	1344	25	06	04	03	1369	672	684	1356
Mar 2014	1356	29	06	00	00	1385	684	695	1379
Apr 2014	1379	30	09	00	02	1409	690	708	1398
May 2014	1398	28	05	02	00	1426	704	715	1419
Jun 2014	1419	27	11	01	00	1446	710	724	1434
Jul 2014	1434	32	06	04	01	1466	720	735	1455
Aug 2014	1455	25	05	01	00	1480	729	745	1474
Sep 2014	1474	31	10	01	01	1505	738	755	1493
End of Year	1493	338	86	19	10	1505	738	755	1493

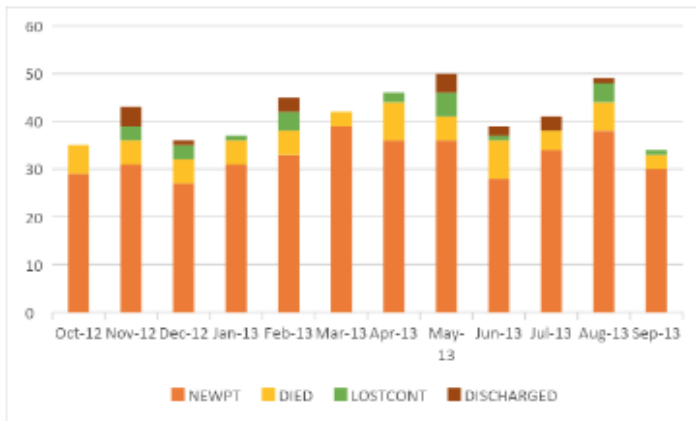


Figure 1: Distribution of trends of new patients, loss to follow up and discharge (2012 to 2013)

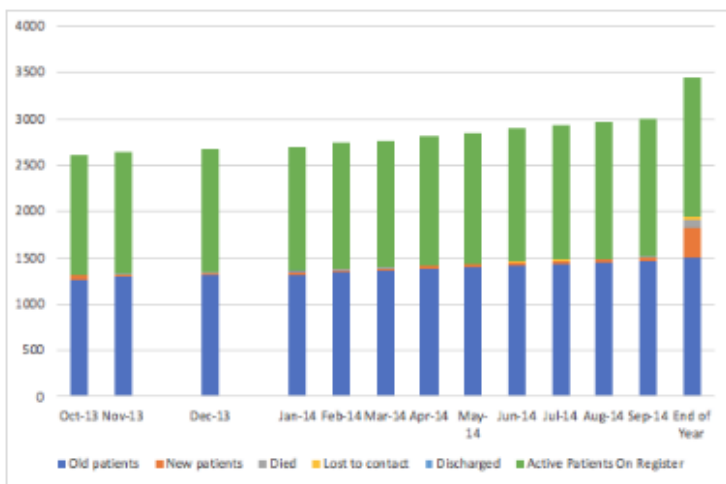


Figure 1: Distribution of trends of new patients, loss to follow up and discharge (2013 to 2014)

The documents were reviewed and themes were derived using a content analysis on palliative care programme documents. Information that was generated from the predefined themes was as follows:

**Community Health Workers:** The programme was made possible by the 60 CHWs who were recruited and trained at the beginning of the programme. These CHWs had no educational background in physiotherapy and therefore required continued training. For both periods under review, the planned refresher training for CHWs was two training sessions per year. However, only one training was conducted for each year because funds were never made available despite being in the financial plan.

**Procurements:** During the period under evaluation, the programme planned to procure supplies and other essentials to be used during

delivery of physiotherapy services to the HIV patients. The items that were procured during this period under review included surgical gloves, massage oil, antiseptic powder, branded T/shirts and flat walking shoes for CHWs, umbrellas and identity cards.

**Service delivery:** Under service delivery, HIV patients who were enrolled under the physiotherapy programme continued receiving services provided by CHWs and Physiotherapists. These services were interrupted sometimes due to a number of challenges some of which are mentioned under the next theme.

**Challenges:** The major challenge reported was inconsistency in releasing funds to carry out planned activities. This included activities such as training, procurement of supplies and servicing of the programme bus. For both periods under review, it was noted that only one training was conducted respectively and many a time supplies would run out. The delayed

process in replenishing supplies such as gloves made it very difficult for CHWs to provide the service. The other challenge during this period was the breaking down of the sole programme bus, and it took several months to have it repaired and serviced. This meant that patients who were supposed to be ferried for group physiotherapy were disadvantaged and in turn caregivers had difficulties visiting each and every patient’s home to provide individual home based therapy.

**Document Reviews**

Using collaborative governance frameworks, and policy analysis approaches like Walt and Gilson policy triangle as well as John Kingdon’s policy streams framework the authors arrived and reviewed the documents shown in table 2. Further, the authors envisioned to apply systems dynamics tools, including causal loop diagrams to look at policy pathways and obstacles in dealing with selected palliative care for comorbidities of HIV.

**Table 3: Zambia Health sector related documents reviewed in the study**

Document/Report	Year/Period	Study significance
<b>Zambia across sector documents</b>		
1. Vision 2030	2006	This document serves as a guide for all the development efforts of the country. As such, the goals and targets set in the vision determine the strategic focus in all economic sectors including health.
2. Revised Sixth National Development Plan (R-SNDP)	2013-2016	This document is the main instrument for implementation of Government programmes in the medium term in Zambia.
<b>Zambia health sector specific documents</b>		
3. National Health Policy (NHP)	2013	This document states clear directions for the development of the Health Sector in Zambia. It sets out policy measures that are supposed to guide strategies and programmes in the health sector.
4. National Health Strategic Plan (NHSP)	2011-2016	It operationalizes the national health policy in the medium term.
5. Mid-term Review Report	2014	This document details the performance of the health sector according to the targets of the NHSP.
<b>HIV specific Documents</b>		
6. NAC Devolution Plan 2016	2016	It gives the strategic direction for NCDs, in the context of the broader health sector plans.
7. National HIV/AIDS/STI/TB Act 10 - 2002	2002	It gives the expanded strategic direction for the prioritized cancer disease with the context of the NCD strategic plan.

**Palliative Care Policy**

The interviewed Physiotherapists and Administrator who worked on the palliative care programme presented different views on why palliative care could be a best practice for public policy. The participants believed that palliative care was mainly offered in hospitals as it was a service offered to patients who had cancer and this was mostly in the private health sector and NGOs. Respondents who worked on this programme had different descriptions, describing palliative care as offering services to

patients at home.

*“access to palliative care is very limited despite the ever increasing number of people needing this life prolonging care. In our country (Zambia) palliative care is only accessed in very few centers (private and NGOs) without the involvement of the government”*  
(Clinical Assistant-Physiotherapist).

Other respondents had a more holistic view of palliative care policy as a best practice. They



mentioned the role of palliative care in improving not only the quality of life of the patients but also that of the family. One of the participants expressed this;

*“other methods of health care delivery do not provide the best care for terminally ill patients, palliative care gives hope of living to the terminally ill who would have given up on life due to effects of other methods of health care delivery... this method of care relieves the burden on family members thereby improving the family’s quality of life”*

## Discussion

The goal of this evaluation was to assess the programme output in terms of patient trends and the implementation process from October 2012 to September 2014. The analysis shows that the number of patients who were enrolled on the programme increased from October 2012 to September 2014. This is despite the fact that some patients were lost to follow up from the programme through death, discharge and lost to contact. During this period, the trend showed that there were more new patients enrolled than those lost to follow up from the programme through death, discharge and lost to contact. These supposedly new patients may not have been new but old cases who were experiencing episodic cycles of wellness and illness O’Brien et al., [18]. The long life expectancy of HIV patients has led to an increase in the prevalence of HIV patients who are living with HIV related disabilities that require rehabilitation services [19]. The increasing number of HIV patients enrolled on the programme is also clear evidence that HIV patients suffer from disabling conditions which require physiotherapy services. This is consistent with Rusch et al. [16] who reported that 80.4 % of HIV patients reported having some form of participation restriction. Like any other chronic illness, living with HIV/AIDS has come with many challenges including social exclusion, loss of employment and dependency on activities of daily living. These problems compromise the QOL of the affected patients and as noted by Rusch and colleagues [16], social exclusion due to participation restrictions can contribute to mental function impairments.

This programme evaluation also showed that the rate at which patients were discharged from the programme per month was very low. This may be attributed to the fact that

HIV is now a chronic disease and patients are now living longer with a number of impairments and disabilities [19]. The fact that these patients were staying longer on the programme should not be of concern to anyone because this programme was under PC which is intended to relieve suffering and improve quality of life of patients despite the final outcome of the illness [20].

Despite the programme being taken to the community, some patients were being lost to follow up due to a number of reasons including family moving to a different location or the patient, especially female, moving to other relatives’ home to be cared for. This is in accordance with Ntozi and Nakayiwa, [21] who observed that when women get sick, they are usually cared for by their parents and for those who are married, some of them would move to their parents’ home to be cared for.

### **The themes under qualitative findings included CHWs, procurement, service delivery, programme challenges and palliative care policy**

Involving CHWs to assist on this programme enabled many patients to access physiotherapy services. In a systematic review that was carried out in Sub-Saharan Africa, it was reported that CHWs enhance the scope and uptake of quality of HIV services, as well as the dignity, QOL and retention in care of PLHIV [22]. Mukherjee and Eustache, [23] further noted that CHWs are the cornerstone in the provision of medical therapy and emotional support to people living with HIV.

Challenges reported by both CHWs and Physiotherapists bordered on delayed release of funds resulting in inconsistencies in implementing activities such as training, procurement of supplies and servicing of the programme bus. Supplies used by CHWs such as surgical gloves and massage oil would run out completely before restocking, a situation that was demotivating to the CHWs. Lack of supplies has been reported in other studies to be a barrier and obstacle to CHWs’ performance and motivation [16, 24]. In addition, Herman et al. (2009) observed that the insufficient attention to issues such as quality supervision and continuous training for community health workers usually compromise the quality of the community based programmes.

On PC policy, interviews were conducted with Physiotherapists and the

Administrator. In addition, document reviews were conducted on national policies regarding HIV/AIDS care.

Interviews with Physiotherapists and Administrator revealed diverse views regarding delivery of PC services. While some thought PC services should be offered by private owned hospitals and NGOs, the others thought that PC services should be offered in the patients' homes. Despite the diverse views on delivery of PC, the respondents highlighted the importance of PC to both the patient and the family. This is consistent with findings from a study that was done in South Africa where it was reported that many Physiotherapists acknowledged working with patients who require PC services despite not having formal training in this area [20].

In Swaziland, a PC policy and strategy was developed in 2011 in which PC was considered a human right [12]. The development of this policy had a number of factors in its favour: PC in Swaziland had a long history and the policy enjoyed the public support of influential policy actors including the Health Minister. Since that time there has been a dedicated budget line for PC in the health budget, a PC desk and dedicated PC Officer in the MOH. According to the results of this study, the policy did translate into increased levels of PC provision, although it did not produce greater geographic equity.

The African Palliative Care Association (APCA) advocates for the inclusion of PC in national health policies, HIV/AIDS policies, national cancer control programmes and strategies. Their advocacy ensures that the PC gets noticed, recognized and becomes accessible at all levels of service delivery. There is also a deliberate advocacy by APCA to ensure that PC is included in budget allocations for health services and wider health financing plans. The APCA has already provided technical support in the development of standalone PC policies, such as for Swaziland, Botswana, Malawi, Uganda, Mozambique and Rwanda, and help provide guidance towards PC integration in other health related policies. This may be very helpful for allied health professions like physiotherapy to make use of such a policy, however it remains difficult for Zambia and other nearby countries to thrive in the area of PC due to lack of a policy and funding.

Pate et al, [9] and Bryan et al,[10] reported an earlier estimate that approximately 30% of total cancer deaths are related to poor exercise and nutrition, and when taking into consideration both cardiovascular disease and cancer, that physical inactivity contributes to as many as 250,000 premature deaths per year. PC improves outcomes in PLHIV or AIDS. Home palliative care and in-patient hospice care improved a number of patient outcomes, particularly in terms of pain and symptom control, anxiety, insight and spiritual well-being.

My work is living out what the policies are stating, that best practice and community service models are recommended to address the changes occurring across the healthcare system [24. Physiotherapists therefore need to be:

- (a) aware that they can do something about their service, for example, empower people so that they can make change happen and
- b) have an understanding of current policies in order to make a case for change

In the qualitative study, Physiotherapists explained that a family's ability to provide adequate support was an important determinant of whether in-home patients received (best practice) care. Some caregivers also felt that patients were not always informed or realistic in their choice to die at home, and noted that initial patient wishes could change as patients come to realise the intensity of support required and the impact on their loved ones.

#### **Palliative Care Needs of PLHIV**

Between 30 and 98 percent of PLHIV experience pain, which generally increases in frequency and severity toward the end of life. Among those with AIDS, the range is 63 to 98 percent. According to studies documenting pain, it has been estimated that between 30 and 60 percent of PLHIV who are on ART experience moderate to severe pain.

#### **Palliative Care Needs of PLHIV on ART**

Palliative care is essential for PLHIV on ART. HIV for many on ART will continue to lead to different forms of suffering. This has been documented in a number of studies, including one recently conducted in Tanzania, where 53 percent of patients on ART presented with a PC need. [25, 26] Studies are indicating that while ART increases immune function,

reduces morbidity, and improves prognosis among PLHIV, it does not always lead to major improvements in psychosocial wellbeing, and in some cases leads to reduced QOL. People living with HIV may have a number of psychological, social, and spiritual problems while on ART. In addition, depression and lack of social support are associated with significantly reduced adherence to ART. A number of factors make PC vital for PLHIV on ART. One is that those on ART, particularly those who start therapy late, may have physical problems or experience multiple, distressing side effects such as immune reconstitution inflammatory syndrome, chronic pain due to previous illness, persistent or new illness, and other chronic illness such as heart disease, hepatitis, or cancer. Despite efforts to ensure all PLHIV who need ART have access to it, the reality in both rich and poor countries is that there are disparities in access. These differences persist in countries with strong healthcare systems such as the USA, and in countries where ART is being provided by less-developed systems. In Botswana, where ART access is universal, the annual mortality rate of PLHIV has decreased but is still relatively high. Elsewhere access to ART is much lower. In Africa, as of December 2006, only 28 percent of those in need of treatment were receiving it.[27] Similarly, in Asia, 26 percent of those in need of ART receive it. Palliative care services need to be made available in these different contexts.

## Conclusions

Physiotherapy was shown to have positive influence on QOL and perceived wellbeing in a wide range of patient populations requiring PC, not only HIV, but also cancer, neurological disorders, cardiopulmonary conditions and mental illness. Establishing these segments represents a key contribution to the evidence on how to encourage best practice of PC within general practice. Their key benefit if PC is policy, is the way in which they provide a framework for future support and communication. This helps us move from a 'one size fits all' approach to a more engaging and highly targeted approach. There is a need to integrate PC into health care training and hospitals, along with it there is a need to implement PC into the curricula for physiotherapy training and professional

healthcare. Palliative care is a very important branch of medicine that is taught globally. It is a very successful approach but unfortunately it is a neglected area in health care practice and education in many developing countries. Physiotherapists play a very important role in the multidisciplinary team of PC hence the need to incorporate a course in the curriculum for undergraduate training in physiotherapy. Doing so would enhance the awareness of PC education among physiotherapy and other health care professions.

## Policy

The existence of national strategies for PC in many developed countries and inclusion of PC within health care systems is recognized once more. The emphasis is put on the need for implementing global policy measures, considering the inclusion of PCs in chronicity/non-cancer programmes. The long processes for policy changes and development and the difficulties involved in the execution of PC plans - lack of political commitment and inadequate dissemination of PC goals, lack of PC leaders who can influence policy implementation and insufficient resources- are acknowledged as main barriers/challenges in regard to policy.

## Declaration

### *Acknowledgments*

### *Footnotes*

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