

Perspectives of Health Care Providers Working with HIV Positive Clients on Nutritional Challenges Among People Living with HIV/AIDS in Kigali, Rwanda

Tafadzwa Dzinamarira^{1,2,*}, Gashema Pierre², Michael Habtu¹, Rosemary Okova¹

¹Department of Public Health, Mount Kenya University Rwanda, Kigali, Rwanda

²College of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda.

Abstract

Efforts to control the Human Immunodeficiency Virus epidemic in Rwanda have seen remarkable success over the years. Effective antiretroviral therapy has played great role in improving longevity among people living with HIV/AIDS (PLWH). While this is the case, there are various nutritional challenges, which are often faced, among PLWH. Guided by the Rwanda country guidelines for nutritional management for PLWH and WHO recommendations, this study aimed to explore the perspectives of health care providers (HCPs) working with PLWH on nutritional challenges faced by their clients in Kigali, Rwanda. We conducted a qualitative study using in-depth interviews to collect data. A non-probability purposive sampling was employed to recruit HCPs. Data analysis was based on the naturalistic paradigm. We followed the hybrid approach in conducting thematic analysis. Three themes were identified. First, HCPs had good knowledge on nutritional requirements for PLWH. They demonstrated good communication skills and adequate counseling skills that were necessary for addressing concerns on nutrition from their clients. Secondly, it emerged that HCPs perceived a lack of resources to be the major challenge faced in nutritional management of their clients. From theme three, it emerged that, from HCPs experiences, food insecurity and lack of feeding supplements were the main causes of malnutrition among PLWH in Kigali, Rwanda. From the HCPs perspective, there is a need to improve healthcare institutions capacity to manage nutritional challenges faced by PLWH. To achieve this, policy makers need to channel adequate resources for this cause.

Corresponding author: Tafadzwa Dzinamarira, Department of Public Health, Mount Kenya University Rwanda, Kigali, Rwanda, Email: anthonydzina@gmail.com

Keywords: Health care provider, Nutrition, People Living with HIV/AIDS, Rwanda

Received: Mar 10, 2020

Accepted: Mar 15, 2020

Published: Mar 25, 2020

Editor: Angela Pia Cazzolla, Department of Dentistry and Child Complex Operating Unit of Dentistry at the University of Bari.

Introduction

Efforts to control the Human Immunodeficiency Virus (HIV) epidemic in Rwanda have seen remarkable success over the years [1-3]. Available evidence shows that as of June 2017, 87% of all people living with HIV (PLWH) in Rwanda know their HIV status. Of those with knowledge of their status, 94.8% were on ART, and 86.4% of those on ART were virally suppressed [4]. Not surprisingly, The Joint United Nations Programme on HIV/AIDS (UNAIDS) has reported Rwanda to be one of the countries nearing epidemic control [5]. Good nutritional status is critical for PLWH. In 2004, the World Health Organization (WHO) spelt out nutritional requirements for PLWH [6]. Since then, various scholars have strived to show the link between good nutrition and quality of life for PLWH [7, 8]. Further, poor nutrition has been associated with poor adherence to antiretroviral treatment (ART) resulting in preventable morbidity and mortality [9].

Per Jesson et al., 2015, indicated that lack of nutritional support is an important challenge among PLWH in sub-Saharan Africa [10]. Similar findings have been reported by other scholars [11-14]. Other nutrition related challenges reported include food insecurity [11- 14]. The health care provider has a primary role in nutritional support for PLWH [15, 16]. However, few researchers have explored health care providers' perspectives on nutritional management of their HIV positive clients.

The aim of our work was to explore health care providers' (HCPs) perspective on nutritional management for PLWH in Kigali, Rwanda. We guided our exploration based on the Rwanda country guidelines for nutrition management for PLWH [17] and guidance from WHO [15]

Methods

Study Design, Setting and Sampling

This study is part of a larger study on assessment of dietary status and associated factors among PLWH in Kigali, Rwanda. The main study protocol has been submitted elsewhere for publication consideration. As part of the main study, we conducted a scoping review on nutrition challenges faced by PLWH in sub-Saharan Africa [18, 19], a qualitative study

assessing PLWH perspectives on factors that affect their feeding habits [20], and a cross sectional study [21] to assess dietary status and associated factors among PLWH in Kigali, Rwanda. Here we present a qualitative study using in-depth interviews with HCPs working with PLWH at three tertiary hospitals in Kigali Rwanda was conducted. For purposes of this study, the term health care provider refers to an individual working at a comprehensive care department as a supervisor or in direct day- to day contact with PLWH. A non-probability purposive sampling was employed for the selection of HCPs. Saturation of information controlled the sample size [22].

Data Collection and Analysis

Nutrition Care and Support for People Living with HIV/AIDS [15] guided our interview guide content and structure. Interviews were conducted by the researchers in a private room at the study site. Interviews were conducted in Kinyarwanda, the local language, tape-recorded and transcribed verbatim. We conducted translation and back translation of the transcripts to ensure no loss of data. Study participants checked and validated the transcripts. We used prolonged engagement [23, 24] to ensure credibility. Prior to data collection, pilot testing of the interview guide [25, 26] by conducting three interviews with HCPs working with PLWH at a non- study site was done to ensure dependability. Data analysis was based on the naturalistic paradigm. We followed the hybrid approach in conducting thematic analysis [27]. With this approach; some themes were based on the interview guide, while others were derived directly from the text data. Hybrid approach limits researcher bias due to pre-conceived ideas or theoretical perspectives [27-29]. We used NVivo version 12 software to manage the data.

Results

Saturation was reached after a total of 15 interviews were conducted with health care providers. Of these, 12 were nurses working with PLWH on a day- to-day basis while three [3] were clinic managers. More information on the informants is available on Table 1 Three major themes emerged from the analysis.

Theme one showed HCPs had good knowledge on nutritional requirements for PLWH. They

Table 1. Presentation of informants by job title and years of experience working with PLWH

Informant number	Job title	Years of experience
HCP-1	Counsellor/Nutritionist	4
HCP-2	Counsellor/Nurse	3 months
HCP-3	Counsellor/Nurse	6
HCP-4	Counsellor/Nurse	1
HCP-5	HIV Clinic Manager	15
HCP-6	Counsellor/Nurse	4
HCP-7	Counsellor/Nurse	7
HCP-8	Counsellor/Nurse	10
HCP-9	HIV Clinic Manager	12
HCP-10	Counsellor/Nutritionist	2
HCP-11	Counsellor/Nutritionist	4
HCP-12	HIV Clinic Manager	13
HCP-13	Counsellor/Nurse	1
HCP-14	Counsellor/Nurse	9
HCP-15	Counsellor/Nurse	6 months

demonstrated good communication skills and adequate counselling skills that were necessary for addressing concerns on nutrition from their clients.

“adequate nutrition, which means consumption of a balanced healthy diet, is vital for health and survival for all individuals particularly our clients living with HIV. We make sure to assess their nutrition status on each visit and provide relevant message to them regarding their diet”.

Theme two revealed HCPs perceived a lack of resources to be the major challenge faced in nutritional management of their clients. From their responses, it also emerged that health care facilities experienced a shortage of information, education, and communication (IEC) materials, necessary resources for providing nutrition education to PLWH.

“while many resources have been allocated to diagnosis [and] treatment, I feel the aspect of nutrition is neglected. I would say policy makers have to shift focus to improving quality of life for people living with HIV and nutritional support is the first step. The last

report showed that we are doing well on 90-90-90.”

“at our health facility we provide only the sosoma [porridge] but unfortunately it is not for all patients because we have limited sponsors. Now we have one main sponsor to our clients supporting nutrition. Sometimes the government provides for only the pregnant women and those with severe malnutrition. In addition, for the sponsor, support is limited to those as special cases identified by health care provider and Ubudehe categories.”

From theme three, it emerged that from HCPs experiences, food insecurity and lack of feeding supplements as main causes of malnutrition among PLWH in Kigali, Rwanda. Under the same theme, a sub- theme exposed the cycle of poor nutrition leading to poor health that in turn leads to PLWH unable to seek employment and afford food. Not surprisingly, HCPs reported that in their experience PLWH who had disclosed their HIV status to family members tend to receive more nutritional support from family members that their counterparts who would have not yet

disclosed. "in my experience, I have never encountered a client who told me they do not eat any food item because it is considered to be for the low class people.

In fact, I think majority of the clients actually do not have adequate food to eat. This is a serious issue. I would call on MoH [Ministry of Health] to see how they can help us to do fund food supplements at all health centers in Rwanda so that all people living with HIV/AIDS may get it accordingly as it help them while taking the ARVs".

"One of the main factor that affects their nutritional status is availability of the food for our clients are, some even report lack of energy for doing some physical work so you see unemployment issues are common among them".

Discussion

Based on the findings of the study, the HCPs had good knowledge on nutritional requirements for PLWH. They demonstrated good communication skills and adequate counselling skills that were necessary for addressing concerns on nutrition from their clients. A study, which was carried out by Weldegebrealet al. noted that some of the main nutritional issues for PLWH include healthful dietary principles and food safety [30]. As a result, HCPs should be in a position to have solid knowledge on the nutritional requirements of their clients. Earlier work done by [31] also substantiate the finding of the current study which revealed the huge role of communication in the continuum of HIV care and treatment.. The study generally noted that health communication is capable of improving HIV treatment, care, and prevention. Similar findings have been reported by Walsh et al. [32]. HCPs charged with dissemination of information concerning various nutritional aspects to PLWH should thus use effective communication strategies to ensure that the messages are delivered. This is similar to the findings of a 2014 case report by Storey et al. [33]. Further, In Uganda, a study by Bukusuba et al. noted that support groups of the PLWHA are effective strategies, which can be used for the communicating nutrition information and for the implementation of various projects, which are linked to nutrition [34].

The findings of the study also revealed HCPs perceived lack of resources as one of the major

challenges faced in nutritional management of their clients. The study noted that health care institutions experienced a shortage of IEC materials and other resources necessary for providing nutrition education to PLWH. Similar findings have been demonstrated by studies carried out in Iran and Lesotho [35, 36]. For instance, the findings of a study, which was done by Hamzeh et al. noted that inadequate food intake because of limited resources is one of the main causes of malnutrition among PLWH in Kermanshah, Iran [35]. In a separate study, which was carried out by Koto and Maharaj [36], the findings indicated that poor infrastructure, as well as shortage of supplies in various healthcare organizations in Lesotho have significantly hindered the HCPs from carrying out their duties in an effective manner. The study also noted the heavy workload, as well as the severe time constraints that put huge stress on HCPs and in particular those working with PLWH. In Mozambique, Jaiantilal et al. also noted that the healthcare institutions grapple with various work environment barriers, which are linked to limited resources [37]. In this qualitative study, HCPs cited high patient load, time constraints, as well as frequent staff turnover [37]. In China, Laiyi Kang [38] also noted that lack of adequate resources is a key hindrance when it comes to HCPs carrying out their works. It can thus be concluded that lack of adequate resources at health care facilities to support nutritional management of PLWH is a key challenge. This calls for adequate resource allocation to ensure improved health outcomes for PLWH.

The current study also noted that based on the HCPs experiences, food insecurity and lack of feeding supplements were noted to be the main cause of malnutrition among PLWH in Kigali, Rwanda. This is similar to the findings of the study, which was done by Anema, which noted that food insecurity is a huge barrier when it comes to nutritional management of PLWH [39]. The study noted that various nutrition interventions should be integrated into HIV/AIDS treatment and care programs. This is consistent with calls from other scholars in Senegal [14] and Zimbabwe [13]. There is need to address food insecurity among PLWH to improve health outcomes [12, 40].

Conclusion

This study mainly aimed to explore HCPs'

perspective on nutritional management for PLWH in Kigali, Rwanda. From the HCPs perspective, there is need to improve healthcare institutions capacity to manage nutritional challenges faced by PLWH. To achieve this, policy makers need to channel adequate resources for this cause.

Declarations

Competing Interests

The authors declare that they have no competing interests, which may have inappropriately influenced them in writing this article.

Consent to Publish

Not applicable

Availability of Data and Materials

If needed the raw data used for this article is available upon reasonable request in writing to the corresponding author with approval from The University Teaching Hospital of Kigali and Rwanda Military Hospital Ethical Committees.

Funding Statement

No funding was received for this study.

Authors' Contributions

- TD conceived and designed the study and data analysis, contributed analysis tools, performed the analysis, and wrote the paper.
- GP collected the data and contributed to data analysis
- MH supervised data collection and contributed to data analysis
- RO supervised data collection and contributed to data analysis
- All authors read and approved the final manuscript

Acknowledgements

We thank all participants who took time to participate in the interviews for this study.

References

1. Institut National de la Statistique du Rwanda - INSR, ORC Macro. Rwanda Demographic and Health Survey 2005. Calverton, Maryland, USA: INSR and ORC Macro; 2006.
2. National Institute of Statistics of Rwanda - NISR,

- Ministry of Health - MOH/Rwanda, ICF International. Rwanda Demographic and Health Survey 2010. Calverton, Maryland, USA: NISR/Rwanda, MOH/Rwanda, and ICF International; 2012.
3. National Institute of Statistics of Rwanda MoFaEPR, Ministry of Health/Rwanda, and ICF International. Rwanda Demographic and Health Survey 2014-15. Kigali, Rwanda. 2016.
4. Health Mo. Fourth Health Sector Strategic Plan July 2018 - June 2024. Kigali, Rwanda; 2018.
5. UNAIDS. Ending AIDS: Progress towards the 90-90-90 targets. Geneva, Switzerland; 2017.
6. WHO. Nutrient requirements for people living with HIV. 2004.
7. Thapa R, Amatya A, Pahari DP, Bam K, Newman MS. Nutritional status and its association with quality of life among people living with HIV attending public anti-retroviral therapy sites of Kathmandu Valley, Nepal. *AIDS research and therapy*. 2015;12:14-. <https://doi.org/10.1186/s12981-015-0056-9>
8. Suttajit M. Advances in Nutrition Support for Quality of Life in HIV+/AIDS. *Asia Pacific journal of clinical nutrition*. 2007;16(S1):318-22.
9. Mesic A, Halim N, MacLeod W, Haker C, Mwansa M, Biemba G. Facilitators and Barriers to Adherence to Antiretroviral Therapy and Retention in Care Among Adolescents Living with HIV/AIDS in Zambia: A Mixed Methods Study. *AIDS and Behavior*. 2019: 1-11. <https://doi.org/10.1007/s10461-019-02533-5>
10. Jesson J, Masson D, Adonon A, Tran C, Habarugira C, Zio R, et al. Prevalence of malnutrition among HIV-infected children in Central and West-African HIV-care programmes supported by the Growing Up Programme in 2011: a cross-sectional study. *BMC infectious diseases*. 2015;15(1):216. <https://doi.org/10.1186/s12879-015-0952-6>
11. Poda GG, Hsu C-Y, Chao JC. Malnutrition is associated with HIV infection in children less than 5 years in Bobo-Dioulasso City, Burkina Faso: A case-control study. *Medicine*. 2017;96(21). <https://doi.org/10.1097/MD.00000000000007019>
12. Trehan I, O'Hare BA, Phiri A, Heikens GT. Challenges in the management of HIV-infected malnourished children in sub-Saharan Africa. *AIDS Res Treat*.

- 2012;2012. <https://doi.org/10.1155/2012/790786>
13. Moyo N, Maharaj P, Mambondiani L. Food challenges facing people living with HIV/AIDS in Zimbabwe. *African Journal of AIDS Research*. 2017; 16(3): 225-30. <https://doi.org/10.2989/16085906.2017.1362018>
 14. Benzekri NA, Sambou J, Diaw B, Sall F, Niang A, Ba S, et al. High prevalence of severe food insecurity and malnutrition among HIV-infected adults in Senegal, West Africa. *PloS one*. 2015; 10(11): e0141819. <https://doi.org/10.1371/journal.pone.0141819>
 15. WHO. Nutritional care and support for people living with HIV/AIDS: a training course. 2009.
 16. Van Liere MJ, editor HIV/AIDS and food security in sub-Saharan Africa. Seventh Annual Economic Community of West African States Nutrition Forum Banjul, The Gambia, September; 2002.
 17. MoH. NATIONAL GUIDELINES ON MANAGEMENT OF HIV IN RWANDA. 2011.
 18. Dzinamarira T, Mashora M. Synthesizing evidence on nutrition challenges among people living with {HIV}/{AIDS} in sub-Saharan Africa: a protocol for a scoping review. *International Journal of Community Medicine and Public Health*. 2019;6(17):3173. <https://doi.org/10.18203/2394-6040.ijcmph20192871>
 19. Dzinamarira T, Pierre G, Chitungo I, Habtu M, Okova RJJoHS. A Scoping Review on Nutrition Challenges Among People Living With HIV/AIDS in Sub-Saharan Africa. 2019; 11(12). <https://doi.org/10.5539/gjhs.v11n12p109>
 20. Dzinamarira T, Pierre G, Habtu M, R O. Nutrition And {HIV}/{AIDS}: A Qualitative Study on Perceived Factors Affecting Feeding Practices among Adult People Living with {HIV}/{AIDS} in Kigali, Rwanda. *Nutrition {&} Food Science International Journal*. 2019; 9(4). <https://doi.org/10.19080/NFSIJ.2019.09.555767>
 21. Dzinamarira T, Pierre G, Umuhire EJ, Habtu M, Okova RJJoFR. A Hospital Based Cross Sectional Study on Dietary Status and Associated Factors among People Living with HIV/AIDS in Kigali, Rwanda. 2020;9(1). <https://doi.org/10.5539/jfr.v9n1p50>
 22. Saunders B, Sim J, Kingstone T, Baker S, Waterfield J, Bartlam B, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality & quantity*. 2018;52(4):1893-907. <https://doi.org/10.1007/s11135-017-0574-8>
 23. Talbot LA. Principles and practice of nursing research, Mosby St. Louis; 1995.
 24. Lincoln YS, Guba EG. Establishing trustworthiness. *Naturalistic inquiry*. 1985;289:331.
 25. Polit DF, Beck CT. Nursing research: Generating and assessing evidence for nursing practice: Lippincott Williams & Wilkins; 2008.
 26. Holloway I. Qualitative research in health care: McGraw-Hill Education (UK); 2005.
 27. Fereday J, Muir-Cochrane E. Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International journal of qualitative methods*. 2006;5(1):80-92. <https://doi.org/10.1177/160940690600500107>
 28. Hsieh H-F, Shannon SE. Three approaches to qualitative content analysis. *Qualitative health research*. 2005;15(9):1277-88. <https://doi.org/10.1177/1049732305276687>
 29. Green J, Thorogood N. Qualitative methods for health research: Sage; 2018.
 30. Weldegebreal F, Digaffe T, Mesfin F, Mitiku H. Dietary diversity and associated factors among HIV positive adults attending antiretroviral therapy clinics at Hiwot Fana and Dilchora Hospitals, eastern Ethiopia. *HIV/AIDS (Auckland, NZ)*. 2018;10:63. <https://doi.org/10.2147/HIV.S138638>
 31. Tomori C, Risher K, Limaye RJ, Van Lith L, Gibbs S, Smelyanskaya M, et al. A role for health communication in the continuum of HIV care, treatment, and prevention. *Journal of acquired immune deficiency syndromes (1999)*. 2014;66(0 3):S306. <https://doi.org/10.1097/QAI.0000000000000239>
 32. Walsh C, Dannhauser A, Joubert G. Impact of a nutrition education programme on nutrition knowledge and dietary practices of lower socioeconomic communities in the Free State and

Freely Available Online

- Northern Cape. South African Journal of Clinical Nutrition. 2003.
33. Storey D, Seifert-Ahanda K, Andaluz A, Tsoi B, Matsuki JM, Cutler B. What is health communication and how does it affect the HIV/AIDS continuum of care? A brief primer and case study from New York City. *JAIDS Journal of Acquired Immune Deficiency Syndromes*. 2014;66:S241-S9. <https://doi.org/10.1097/QAI.0000000000000243>
 34. Bukusuba J, Kikafunda JK, Whitehead RG. Nutritional knowledge, attitudes, and practices of women living with HIV in eastern Uganda. *Journal of health, population, and nutrition*. 2010;28(2):182. <https://doi.org/10.3329/jhpn.v28i2.4890>
 35. Hamzeh B, Pasdar Y, Darbandi M, Majd SP, Mohajeri SAR. Malnutrition among patients suffering from HIV/AIDS in Kermanshah, Iran. *Annals of Tropical Medicine and Public Health*. 2017;10(5):1210. https://doi.org/10.4103/ATMPH.ATMPH_315_17
 36. Koto MV, Maharaj P. Difficulties facing healthcare workers in the era of AIDS treatment in Lesotho. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*. 2016; 13(1): 53-9. <https://doi.org/10.1080/17290376.2016.1179588>
 37. Jaientilal P, Gutin SA, Cummings B, Mbofana F, Rose CD. Acceptability, feasibility and challenges of implementing an HIV prevention intervention for people living with HIV/AIDS among healthcare providers in Mozambique: Results of a qualitative study. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*. 2015; 12(1): 2-9. <https://doi.org/10.1080/17290376.2015.1016999>
 38. Kang L. Overview of achievements and challenges of the fight against AIDS in China. *ISRN Immunology*. 2012;2012. <https://doi.org/10.5402/2012/817478>
 39. Anema A, Vogenthaler N, Frongillo EA, Kadiyala S, Weiser SD. Food insecurity and HIV/AIDS: current knowledge, gaps, and research priorities. *Current HIV/AIDS Reports*. 2009;6(4):224-31. <https://doi.org/10.1007/s11904-009-0030-z>
 40. Rose AM, Hall CS, Martinez-Alier N. Aetiology and management of malnutrition in HIV-positive children. *Archives of disease in childhood*. 2014; 99(6):546-51. <https://doi.org/10.1136/archdischild-2012-303348>