

Models and benefits of palliative care for the quality of life of people with HIV: a systematic review

Aulia Insani Latif and Andi Masyitha Irwan
Faculty of Nursing, Hasanuddin University, Indonesia

Abstract

Objectives: This review aims to systematically describe and assess the models and benefits of palliative care for the quality of life of people with HIV.

Methods: Systematic literature searches were carried out on four databases: PubMed, Scopus, Science Direct and Pro Quest to identify studies reported in English published in the last 5 years on palliative care among people with HIV.

Results: Based on six studies that have been analysed, the model of palliative care can be carried out in inpatient, outpatient, nursing home, and community settings with a consultation team. Palliative care can enhance the quality of life of people with HIV in terms of physical, psychological, social and environmental aspects.

Conclusion: Palliative care can enhance the quality of life of people with HIV. However, there is no model of palliative care intervention specified for people with HIV. Furthermore, the absence of a specific instrument to evaluate the quality of life of people with HIV becomes the main consideration and suggestion for further research.

Keywords: palliative care, quality of life, people with HIV

Introduction

Data show that almost 37 million people are living with HIV worldwide and it is estimated that 35.1 million of them are adults aged 15–49 years [1]. In addition, data in 2017 showed that there were 1.8 million new infections of HIV and >940,000 people have died because of AIDS-related illnesses [1]. Globally, the highest percentage of HIV cases are found in Africa (69.93%), then South-East Asia (9.52%) then Americas (9.52%), followed by Europe (6.26%) and Western Pacific (4.08%) [2]. In Indonesia the highest percentage of new HIV infection based on age category was in the age group of 25–49 years (69.6%) [3].

By definition, HIV is categorised as a chronic, progressive and serious illness [4] with high mortality and morbidity compared to other diseases [5]. Therefore, long term HIV treatment by optimising care, raising patients and their family awareness about the condition, and providing terminal care when required is crucially important, strengthening the case for palliative care [6]. In the past, HIV and palliative care were not provided by trained or certified nurses, however, in recent years palliative care has developed and not only focused on end-of-life care, but also in chronic diseases. In addition, now AIDS-related deaths account for less than half of all deaths in patients with HIV [7].

Palliative care is a holistic and comprehensive approach aimed to minimise and prevent suffering and maximise physical function and quality of life in patients with serious illness from the point of diagnosis to end of life, as well as offering a support system to help families cope during the patient's illness and after death through

bereavement support [8]. Palliative care is essential in patients with chronic diseases with high mortality rates such as HIV improving quality of life. So to achieve this goal, it is important to avoid unwanted health care by paying attention to the values requested by patients and families [9,10].

Several articles have been conducted to evaluate palliative care in chronic conditions, especially cancer [11]. However, evidence to support benefits of this intervention in HIV patients are still limited [6]. Hence, further research is needed to strengthen palliative care and integrated palliative approaches in primary care hospitals for people with HIV [12]. This systematic review aimed at summarising, evaluating and systematically describing the models and benefits of palliative care to improve the quality of life among people with HIV to help nurses in constructing palliative care guidelines for HIV patients with a terminal illness condition.

Methods

This review uses a systematic and critical way of thinking in examining various studies using the PRISMA checklist-guideline 2009 which is an evidence-based reporting guideline for systematic reviews and meta-analyses [13,14]. Furthermore, Critical Appraisal Skill Program (CASP) and Center for Evidence-Based Medicine (CEBM) tools are used in this review to assess the feasibility of articles to be included in the study [15,16]. In addition, the study quality was assessed based on the Cochrane Risk of Bias Tool to identify the risk of bias of this study [17].

Literature searching was conducted in PubMed, ScienceDirect, Scopus, and ProQuest. The research question was structured based on PICO (patient, intervention, comparison and outcome) [18,19]. PICO and keywords were based on the databases (Box 1). The research question was formulated as: 'What are the benefits and models of appropriate palliative care to improve the quality of life among people living with HIV?'

A total of 603 studies were identified from the four databases that had been filtered to only included studies published in the last 5 years, were written in English, and conducted on humans with HIV (Figure 1).

Box 1. Description of PICO (patient, intervention, comparison and outcome) keywords.

- P** HIV OR 'human immunodeficiency virus' OR 'human immunodeficiency virus 1' OR 'human immunodeficiency virus 2' OR 'HIV/AIDS' OR 'AIDS' OR 'Acquired immunodeficiency syndrome'
- I** 'palliative' OR 'palliative care' OR 'palliative therapy' OR 'palliative treatment' OR 'palliative medicine' OR 'aids palliative care' OR 'end of life' OR 'end of life care'
- C** Comparisons were the control group or usual care, especially in the included RCT studies.
- O** 'quality of life' OR 'quality of health care' OR 'pain' OR 'patient outcomes' OR 'physical' OR 'psychological' OR 'psychosocial'

Results

We summarised six studies, which consisted of RCT and Cohort studies, that met the inclusion and exclusion criteria. Two RCT studies were conducted in Kenya's Mombasa City, two retrospective cohort studies were conducted in Brazil and the US, one article, a prospective cohort, was carried out in Cape Town, Africa, and one study that combined RCT and cohort was conducted in Washington DC.

Samples

The study carried out by Souza *et al.* (2016) implicated 109 participants and the majority of participants was male (67.9%), diagnosed with HIV for >5 years (66%), with CD4 cell counts <100 cells/mm³ (76%) [9]. The study conducted by Gwyther *et al.* (2019) involved 79 people living with HIV [20]. Most participants were female (62%), having a CD4 cell count <200 cells/mm³, and were aged 30–39 years (43%). The study conducted by Lowther *et al.* (2015) involved 120 people, aged and 22–64 years, on antiretroviral therapy (ART), were randomly recruited using sequential random number tables and who had been diagnosed with HIV for >2 years [21]. Another study was conducted by Lowther *et al.* (2018) with 30 participants, divided into two groups, intervention (n=20) and control group (n=10) to allow in-depth exploration of the intervention [22].

In addition, the study by Rhodes *et al.* (2016) involved 367 patients with HIV who were identified electronically by ICD-9 where the majority of participants were, on

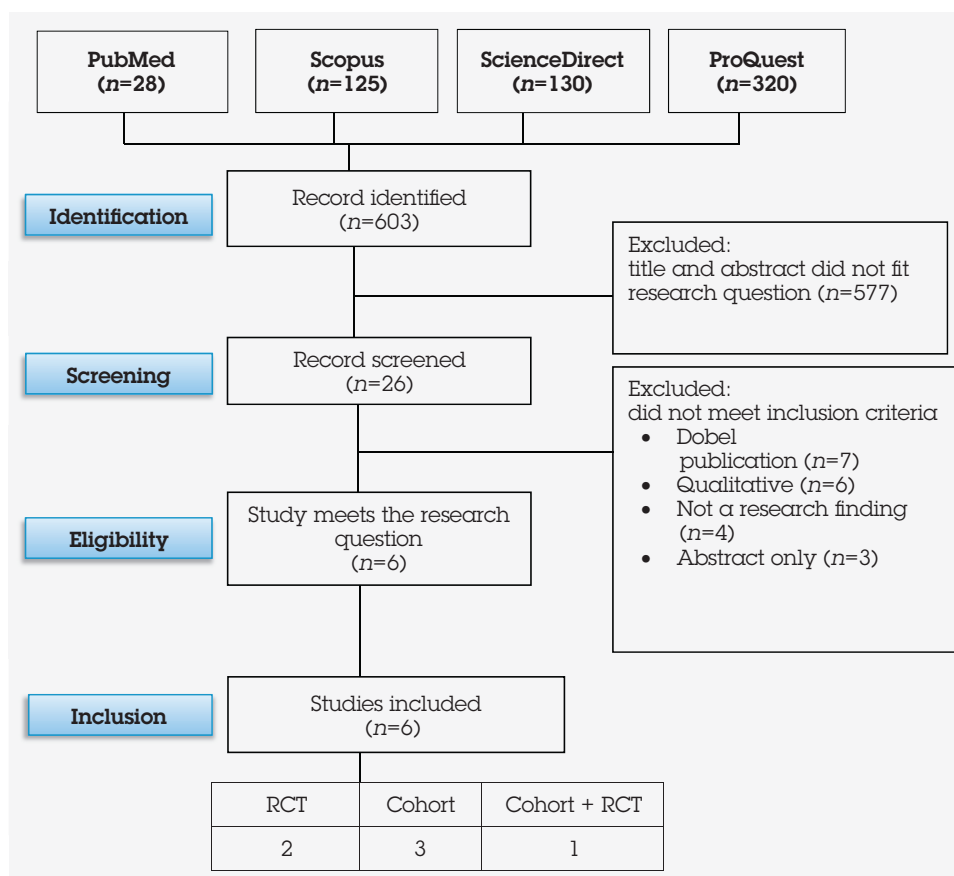


Figure 1: Flow diagram of study selection. RCT: randomised controlled trial

average, aged 42 years (76.0%), were men (57.0%), single (80.7%), with a CD4 cell count of 197 cells/mm³ (60.8%) and had been prescribed ART (91.3%) [23]. The study by Kimmel et al. (2015) involved 288 women aged ≥21 years at enrolment, who were aware of their HIV diagnosis, receiving outpatient or inpatient care with advanced HIV levels, and having a detectable viral load (>200 copies/mL) and a 1-year CD4 cell count <200 cells/mm³ in the last two measurements [24].

Model of palliative care in HIV patients

The results from the six studies depicted several models of palliative care provided for people living with HIV. In the study conducted by Souza et al. an analysis of palliative care records was carried out through hospital records and Initial Evaluation Sheets for the Palliative Care Team (FAICP). Primary analyses were conducted on all patients with a request for palliative care consultation and involved therapeutic interventions for patients receiving terminal care by evaluating the pre and post-intervention data of patients with available records [9].

The study by Gwyther et al. showed that all HIV patients were given questionnaires including Africa Palliative Outcome Scale (APCA), a palliative result scale, as a measure of care at the first visit and the palliative care was carried out by telephone follow-up once a month for 6 months [20]. The first study by Lowther et al. pointed out that palliative care interventions were given to 60 people in the intervention group provided with a minimum of seven multidimensional treatment sessions by nurses specialised in HIV who had been trained in a 5-month palliative care approach course [21].

The second study conducted by Lowther et al. showed a model of palliative care intervention given for a minimum of seven sessions (about 45 minutes/session) for 4 months integrated into HIV outpatient care provided by two HIV clinic officers who were experienced in dealing with pain management, nutritional problems, symptom management, psychosocial issues, spiritual care, ethical and legal issues, understanding of HIV and medication adherence and mourning [22].

In the study conducted by Rhodes et al. only 6.3 of participants received consultation on palliative care during hospitalisation or outpatient care [23]. From those, 54.6% were registered in nursing homes. Kimmel et al.'s study described the provision of family-centered care in the intervention group as a form of palliative care, consisting of two meeting sessions with a certified trained facilitator. Session 1 consisted of planning care and interviews and session 2 consisted of stage completion, of direction, or treatment.

Quality of life of patients with HIV receiving palliative care

The study conducted Souza et al. showed significant results ($P>0.05$) such as the use of ART and antibiotics, vasoactive drugs, kidney replacement therapy and the number of blood transfusion; and 23% of severely ill

patients left the intensive care unit. Gwyther et al.'s study showed that most of the conditions for HIV patients improved ($P<0.05$); the pain, symptoms and anxiety levels were reduced. The spiritual, value of life and feelings of peace were increased. The first article by Lowther et al. pointed out that nurse-led palliative care was not effective in reducing pain ($P=0.95$). However, this intervention showed improvement in the quality of life and mental health in the intervention group.

A similar study also conducted by Lowther et al. pointed out that the intervention group experienced increased self-image, increased access to social agents and resistance to HIV-related stigma. The study by Rhodes et al. showed that patients who received palliative care were able to afford enrolment in a nursing home, had a CD4 cell count of <25 cells/mm³ and albumin <2.5g/dL. The final study carried out by Kimmel et al. showed that this intervention will increase patient-centered communication with substitute decision makers about the choice of end-of-life care and improve the quality of life of patients and reduce utilisation of health services.

Instrument

There are several instruments used in the studies including assessing palliative care and quality of life. Four of the six studies used the APCA POS and HIV Medical Outcomes Study instruments (MOS-HIV) to assess the quality of life among people with HIV [20–22] and [24]. The other two studies used hospital records to assess the palliative care intervention provision [9,23].

A study reviewed by Harding suggested that palliative care in terminally ill HIV patients must be in accordance with the needs of patients to improve treatment outcomes as a part of optimal medical management. This is very relevant for various progressive and incurable comorbidities in patients with HIV [5].

Discussion

This review finds that most evidence supports the benefits of palliative care intervention for the quality of life among people with HIV. This is consistent with the systematic review conducted in 2005 that suggested that palliative care is needed in HIV patients [25].

The included studies consisted of two research designs: cohort and RCT. The most suitable designs for evaluating palliative care intervention because it is a planned experimental design to measure the effectiveness of an intervention. 2

[26]. The largest number of samples in the included studies were 200–300 people and the general characteristics were adult patients with HIV, with terminal condition and aged 21–50 years. This is in contrast with previous data in which the highest percentage of HIV infection was in the adult age group of 25–49 years (69.6%) [1,3]. 3

The outcomes of this review show that various kinds of conceptual models and clinical models for palliative care are available, for instance the palliative care in the reviewed studies was provided in hospitals, nursing

homes, outpatient services or community setting with a consultation team consisting of trained or certified nurses with previous education that focused on patients with a terminal condition [27,28]. It is necessary to understand that the approach to the model of palliative care is crucial to overcoming the physical and psychological experiences of patients with HIV provided by certified staff in an integrated service [29,30]. It would be recommended for nurses and other health professionals to explore the science of palliative care in several models through education or training so that it can be applied well in various places without ignoring the values and culture of patients and families

The general principle for all palliative care models is holistic and should cover physical, emotional, socio-cultural, and spiritual nursing assessments to improve health and quality of life through the quality of care by considering patients and families at the centre of care, and giving maximum attention to communication, and individualised care [31]. In accordance with the results of this study, quality of life in patients with HIV was improved, which showed from patient outcomes that were also increased.

- 4 On physical aspects, palliative care can reduce several treatments, $P < 0.05$, such as reduction in the use of ART, antibiotics, vasoactive drugs and kidney replacement therapy and the number of transfusions.
- 5 Severely ill patients had left the ICU. In addition, the results of this review show significant decreases in pain and symptoms. However, previous studies showed that palliative care with nurse-led interventions were not significant in reducing pain. On psychological aspects, palliative care in patients with HIV can reduce anxiety levels, increase self-image and increase resistance to HIV-related stigma. On social and environmental aspects, palliative care can improve social relations, spiritual wellbeing, value of life and increase peaceful feelings. This is in line with the theory that it is necessary to ensure terminal care at the end of patient life by providing palliative care that purposes to increase the

quality of life of patients with serious illness through treatments of symptoms and side effects [32]. Palliative care also focuses on healing troublesome symptoms and increasing the end-of-life experiences of both patients and their families [33]. So nurses need to understand that palliative care does not only focus on quality of life and end of life but is holistic care to various other chronic illnesses.

This review found that the instrument often used in the included studies is APCA POS that evaluates the benefits of palliative care for the quality of life in patients with HIV. POS is now used in various countries and can be applied in future studies to adjust palliative care needs and quality of care in various patient contexts and groups [34].

Conclusion

This systematic review provides an overview of palliative care models and benefits for the quality of life of patients with HIV. This is in line with the general principle of the palliative care model, which is a holistic model of nursing assessment including the physical, emotional, socio-cultural, and spiritual needs of patients. This principle improves the quality of life through the quality of care by considering patients and families at the centre of care, paying attention, communicating well, and providing individualised care. However, there is no detailed intervention model of palliative care for treatment of patients with HIV. Moreover, the absence of instruments in assessing the palliative care for the quality of life in patients with HIV becomes a main consideration and a suggestion for further research in order to strengthen the evidence, and to be optimally applied to all models of care.

Funding

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Conflicts interests

The authors declare no conflicts of interest.

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Table 1: Grid synthesis description studies of palliative care for people with HIV

Author, city	Research Design	Objective	Participants	Intervention	Outcome measure	Results
Souza <i>et al</i> , 2016 Brazil [9]	Retrospective cohort study	To describe the characteristics of patients with HIV and compare therapies for palliative interventions and end-of-life care.	109 people with HIV treated from January 2006 to December 2012.	Analysis to describe the characteristics of the demographics and end-of-life care interventions before and after the evaluation by the palliative care team using data from available hospital records.	Hospital records and FAICP	Decrease in the use of highly activated ART (HAART), vasoactive drugs, kidney replacement therapy and the number of transfusions of blood products ($P<0.0001$). 23% of patients were discharged from the intensive care unit.
Gwyther <i>et al</i> , 2018 South Africa [20]	Prospective cohort study	To describe the access of patients with chronic conditions to receive palliative care.	79 people with HIV	All patients with HIV who use ART given treatment on a first visit and follow-up once a month through telephone for 6 months	APCA POS	Most items were improved for HIV patients ($P<0.05$). The pain, symptoms and anxiety level were also reduced. Spiritual welfare, the value of life perception and feeling of peace also increased.
Lowther <i>et al</i> , 2015 Kenya [21]	RCT	To assess the effectiveness of the intervention: nurse-led treatment for palliative in patients with HIV.	120 patients with HIV on HAART, recruited randomly.	The intervention group ($n=60$) was given at least seven sessions of multidimensional care by nurses experienced with HIV treatment who had been trained in the palliative care approach for 5 months. The control group ($n=60$) was given usual care	APCA POS	Results showed that palliative care led by nurses were not effective in reducing pain. ($P=0.95$). However, it showed improvement in the quality of life and mental health in the intervention group.
Lowther <i>et al</i> , 2018 Kenya [22]	RCT	To assess resistance to the stigma associated with HIV.	30 HIV patients with HIV on ART, randomly using a mixture of the sequence	Palliative care was given in the intervention group for 4 months, at least seven treatment session (approximately 45 minutes/session), integrated into ambulatory care, provided by two clinical nurses experienced in HIV treatment.	APCA POS	The results of the assessment showed that the intervention group experienced an increase in self- image, access to social agents, and resistance to HIV-related stigma.
Rhodes <i>et al</i> , 2016 USA [23]	Retrospective cohort study	To determine the use of palliative care, completion of advanced instruction, and registration of patients with HIV at an urban safety-net hospital.	367 patients with HIV	Control group received standard care, consisting of monthly appointments usually lasting 5–7 minutes/appointment. Only 6.3% of participants received palliative care consultation during inpatient hospitalisation and outpatient setting. Of those who received consultation, 54.6% were registered in nursing homes.	Analysis of available hospital records	Patients who receive palliative care and those who had a CD4 cell count of <25 cells/mm ³ (OR: 2.76) and albumin less than 2.5 g/dL (OR: 5.27) were more likely to be enrolled at a nursing home.
Kimmel <i>et al</i> , 2015 USA [24]	Prospective cohort RCT	To evaluate the Family-centred (FACE) as palliative treatment in adults with HIV against conformity in preferences of care, utilisation of health services, and quality of life.	288 women with HIV aged >21 years.	Family-centered on a group intervention as a form of palliative treatment which consists of two sessions of face-to-face consultation with a certified facilitator. The first session consisted of planning care and interviews and the second session was the completion of direction or treatment. The control group received standard care.	MOS-HIV and PCOS	The intervention increases patient-centered communication with decision-making shifting the choice of end-of-life care, improvement of quality of life of patients, and reduction in the use of the health service.

RCT: randomised controlled trial; FAICP: Initial Evaluation Sheets for the Palliative Care Team; APCA POS: African Palliative Outcome Scale; OR: odds ratio; MOS-HIV: HIV Medical Outcomes Study instruments; PCOS:

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Correspondence: Andi Masyitha Irwan
citha_ners@med.unhas.ac.id

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